Badger Meter

ORION® Endpoint Utility

Software Application 2.6 for Laptop

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User Manual

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INTRODUCTION

This manual is the guide for using the ORION® Endpoint Utility 2.6.x software. Instructions for installing the software are also included.

Audience and Purpose

The ORION Endpoint Utility software is an application designed for users who read and program ORION Migratable (ME), Fixed Network (SE) and Classic (CE) water and gas endpoints. Depending on the endpoint technology, the software can also be used to extract endpoint historical profile data using IR or RF technology.

Minimum System Requirements

The software is designed to run on Panasonic Toughbook® computers, CF-30, CF-31 and newer, or customer-supplied laptops. Computers require a DVD drive for software installation and one of the following Windows® operating systems meeting the specifications as outlined in the *ORION Mobile Reading System product data sheet*:

- Windows 7 with Service Pack 1, 32-bit or 64-bit, and Microsoft® .NET 4.0 ***Recommended***
- Windows XP with Service Pack 3

NOTE: To find the Windows operating system version and the Service Pack level for the computer you are using, click the Windows Start button. On the Start menu that displays, right-click **Computer** (Windows 7)**/My Computer** (Windows XP) and select **Properties**. System information can be confirmed in the window that displays.

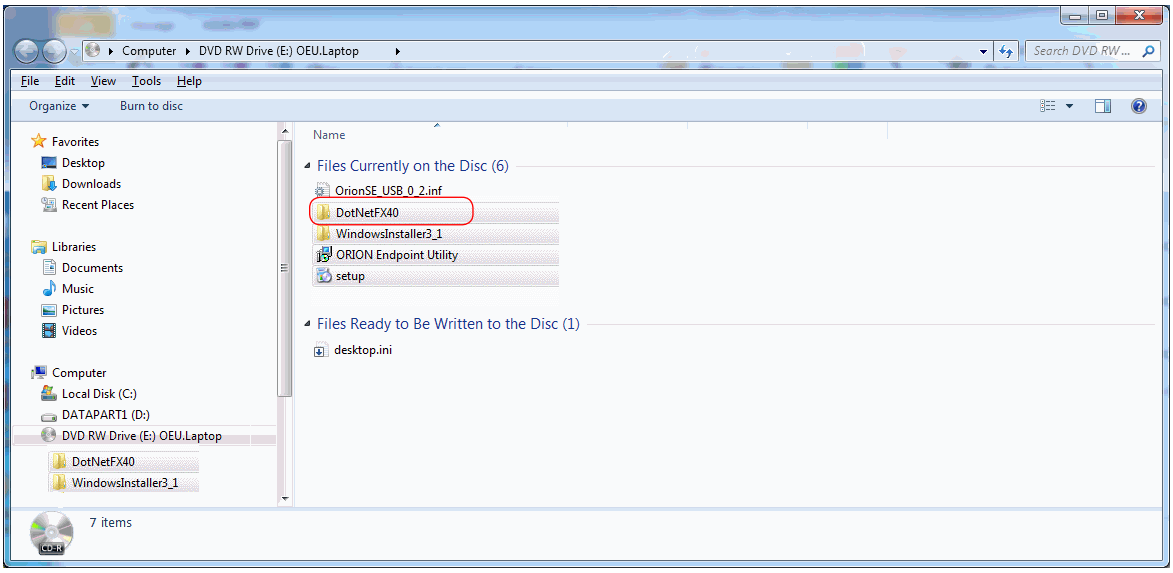
Windows 7 Start

Windows XP Start

MICROSOFT .NET

MICROSOFT.NET is required to run the software as designed. Most computers already have .NET installed. During installation, the ORION Endpoint Utility software prompts you if .NET is not installed.

Windows XP: Install .NET from the software installation disc. The .NET file is shown in the example below.



Windows 7: Go to the **Control Panel** > **Programs and Features** > **Turn Windows Features On**> ***Microsoft .NET Framework*** to enable .NET.

About this Manual

The ORION Endpoint Utility user manual has three main parts:

- **Getting Started**
  This part of the manual covers basic information including the equipment set up, how to start and exit the software program, and how to set the COM ports for the equipment connected to the computer.
- **User Guide**
  The User Guide is the main part of the manual that includes step-by-step instructions and process details for using the Endpoint Utility software application.
- **Appendix**
  Refer to the Appendix to find a glossary of terms used in this manual, and the software installation and removal instructions.

NOTE: To provide the best solution for our customers, Badger Meter continually improves software programs and periodically updates this manual to reflect upgrades. Therefore, some discrepancies may be detected between the installed software and this manual.

Typographic Conventions

- Items on the software screens that you will be asked to select or choose by clicking a button, highlighting, checking a box or another similar means are in **bold** text and capitalized in the manual.
  Example: Click once on the **View Report** button.
- Names of options, boxes, columns, fields, and sections are *italicized*. In most cases, first letters will be capitalized.
  Example: The value displays in the *Status Information* field.
- Messages and special markings are shown in quotation marks.
  Examples*: "*Service Stopped*"* is shown on the display.

NOTE: Names, addresses and other customer-related information displayed in screen examples were created for demonstration purposes in this manual. No actual customer information is included.

IMPORTANT

Before using the software for the first time, see "Removing Previous Software" on page 47 and "Installing the Software" on page 49 in the Appendix for complete instructions on installing the software. Also see "COM Ports" on page 10 for instructions on how to configure the COM ports for the equipment connected to the laptop computer.

GETTING STARTED

WINDOWS UPDATES

Make sure the laptop on which the software is installed always has all the most recent Windows updates. To check the laptop for the most recent updates, perform the following steps.

Windows 7

Click the **Windows Start** button. Click **All Programs**> **Windows Update**. An update message displays in the window that opens. Follow the instructions to install **all updates** if they are needed. Restart the laptop after making any updates.

Windows XP

Click the **Windows Start** button. Click **Control Panel> Security Center**. When the Security Center window opens, click **Automatic Updates**. Then click the radio button for **Automatic (recommended)**. Windows will automatically download necessary updates to your laptop. Restart the laptop after making any updates.

NOTE: An Internet connection is required to update the Windows operating system. See how to activate a wireless connection for the Panasonic Toughbook below if you need help.

Wireless Connection CF-31 Panasonic Toughbook

With the CF-31 on a flat surface facing you, open the compartment on the left side of the laptop. Access the Wireless OFF/ON switch as shown. Move the switch to the ON position for a wireless Internet connection.

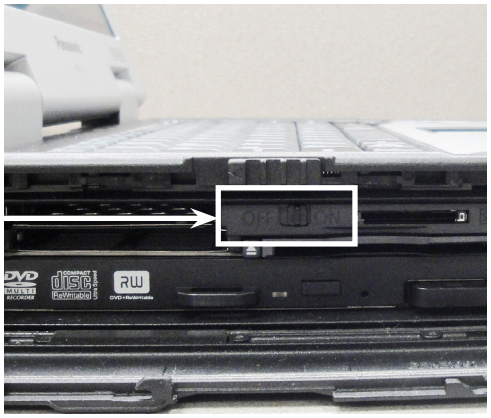


Figure 1: CF-31 wireless OFF/ON switch

Wireless Connection CF-30 Panasonic Toughbook

With the CF-30 on a flat surface facing you, access the Wireless OFF/ON switch on the right side in the front of the laptop as shown. Move the switch to the ON position for a wireless Internet connection.

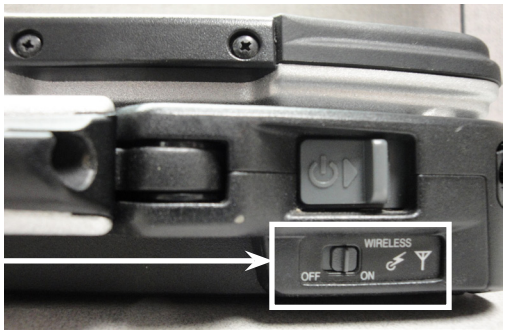


Figure 2: CF-30 wireless OFF/ON switch

Toughbook Touch Screen

In addition to using a mouse or keyboard commands, the Panasonic Toughbook is also equipped with a touch screen for ease of use. To make a selection, touch the screen using the stylus tool contained in the handle of the laptop or simply tap the screen with your finger. The laptop screen is sensitive enough to allow selecting with a tap even if you are wearing gloves. Throughout this manual, the term "click" is interchangeable with "tap."

EQUIPMENT SETUP

IR Setup

To use the software for IR applications, make sure to connect the IR programming cable (PN: 64436-023) to the computer serial port. If the computer does not have a serial port, you can use a serial USB adapter.

NOTE: A serial USB adapter can be purchased at most computer supply stores. Make sure to follow manufacturer directions for using the adapter, and install recommended drivers.

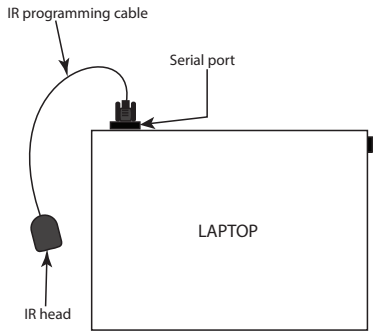


Figure 3: IR programming cable attached at serial port

RF Setup

To use the software for RF applications:

- Connect the magnetic mount antenna to the mobile transceiver and/or receiver.
- Connect the ORION mobile transceiver and/or ORION mobile receiver to a DC power source and to the computer.

  NOTE: DC power is not needed if using a USB powered mobile transceiver.

Vehicle and Laptop Setup with Mobile Transceiver and/or Mobile Receiver

Setup with an ORION ME FHSS mobile transceiver and/or ORION CE FHSS mobile receiver and the Panasonic Toughbook should resemble the diagram below.

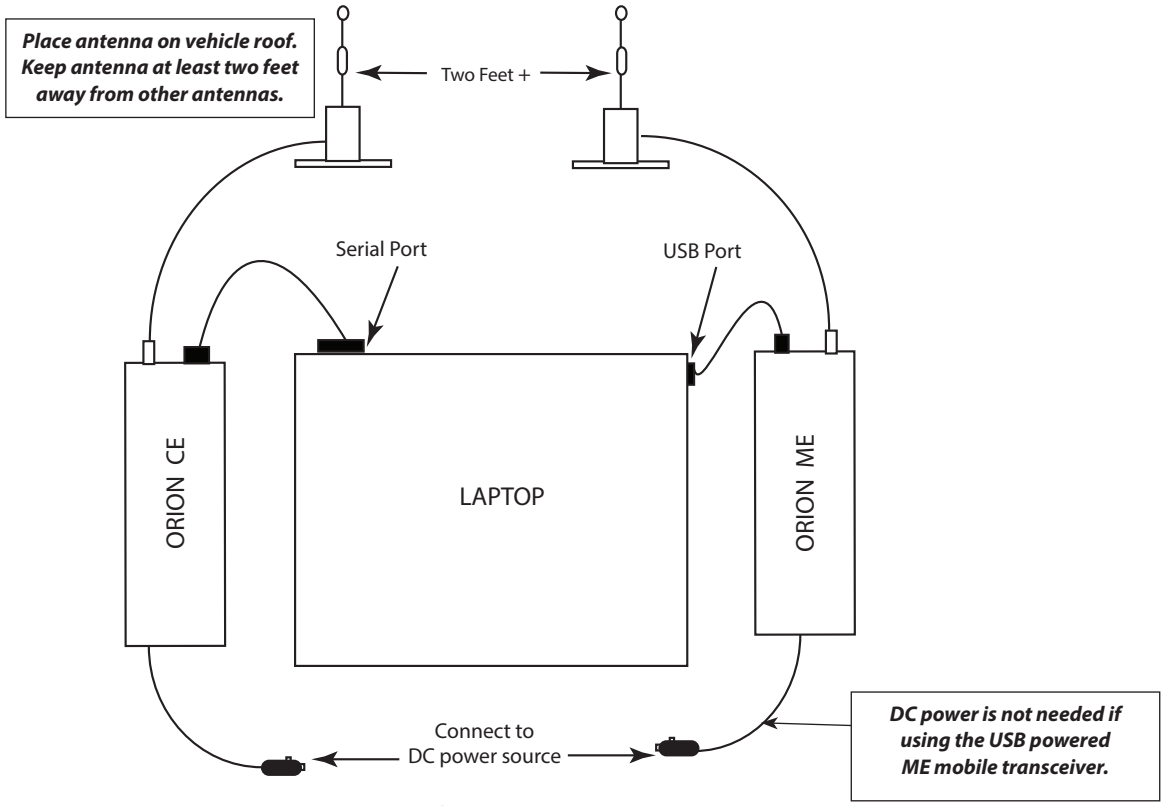

Place antenna on vehicle roof. Keep antenna at least two feet away from other antennas.
Two Feet +
Serial Port
USB Port
ORION CE
LAPTOP
ORION ME
Connect to
DC power source
DC power is not needed if using the USB powered ME mobile transceiver.

Figure 4: RF equipment setup

NOTE: Make sure to set the COM port(s) for the attached equipment. The ORION Endpoint Utility stores equipment connection information so it is good practice to use the same USB port(s) on the computer whenever you connect the equipment to maintain the COM port settings.

COM PORTS

Before using the software application, make sure the correct COM (communication) ports are set for any equipment connected to the computer to establish communication with the software.

Check the COM Port(s)

Windows 7: Click **Windows Start** to open the menu. Right-click **Computer** and select **Properties**> **Device Manager**.

Windows XP: Click **Windows Start** to open the menu. Right-click **Computer** and select **Properties**> **Hardware** tab> **Device Manager**.

A window similar to the one below opens.

Click the small arrow next to *Ports (COM & LPT)* to expand the list. In the example, the ORION mobile transceiver ("*Orion SE Mobile COM*") is using COM 5 and the IR cable ("*Prolific USB-to-Serial Comm Port*") is using COM 7.

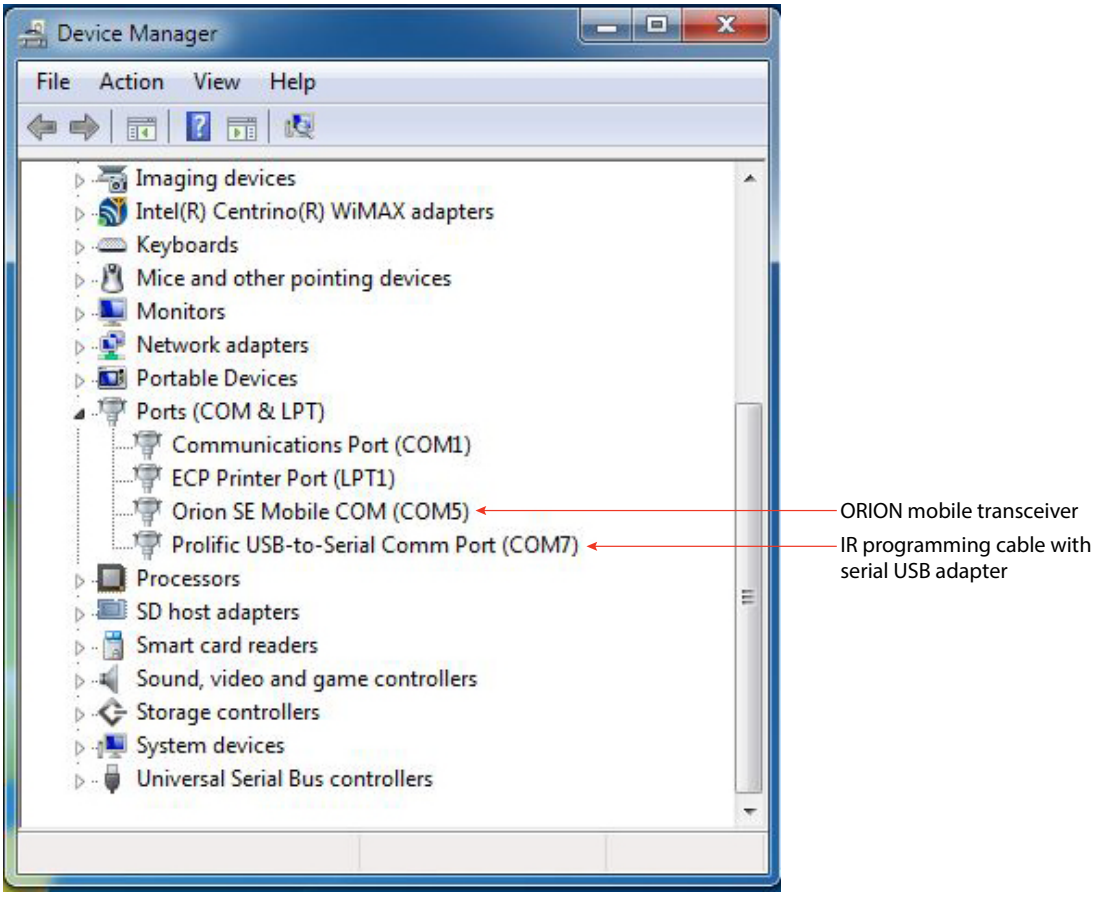


Figure 5: Device Manager showing COM ports

IMPORTANT

Make a note of the COM ports. They will be needed to configure the settings for the software. See "Settings" on page 13.

SOFTWARE STARTUP/EXIT

1. Double-click the ORION Endpoint Utility shortcut on the desktop.

   The License Agreement screen displays the first time the software is accessed.

Figure 6: Desktop icon

NOTE: The License Agreement must be accepted by an authorized representative of the customer/licensee.

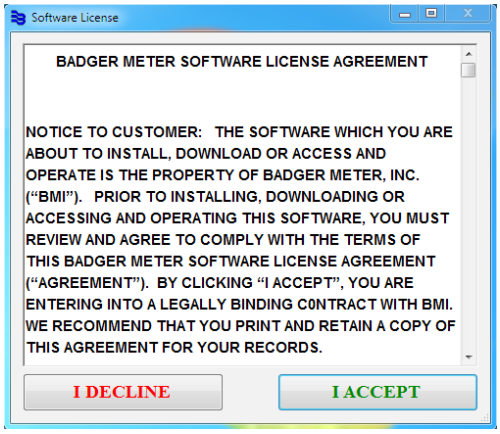

Software License
BADGER METER SOFTWARE LICENSE AGREEMENT
NOTICE TO CUSTOMER: THE SOFTWARE WHICH YOU ARE ABOUT TO INSTALL, DOWNLOAD OR ACCESS AND OPERATE IS THE PROPERTY OF BADGER METER, INC. ("BMI"). PRIOR TO INSTALLING, DOWNLOADING OR ACCESSING AND OPERATING THIS SOFTWARE, YOU MUST REVIEW AND AGREE TO COMPLY WITH THE TERMS OF THIS BADGER METER SOFTWARE LICENSE AGREEMENT ("AGREEMENT"). BY CLICKING "I ACCEPT", YOU ARE ENTERING INTO A LEGALLY BINDING C0NTRACT WITH BMI. WE RECOMMEND THAT YOU PRINT AND RETAIN A COPY OF THIS AGREEMENT FOR YOUR RECORDS.
I DECLINE
I ACCEPT

Figure 7: License Agreement screen

Click **I ACCEPT.**
Result: The login screen opens.

The login screen includes the software version, and access to the license and trademarks information.

2. Type your ID in the *User ID/Initials* field.
   The field accepts a maximum of 7 characters, alpha and numeric.

   NOTE: The User ID/Initials must be entered by an authorized representative of the customer/licensee.

   *Result: The **OK** button becomes active.*

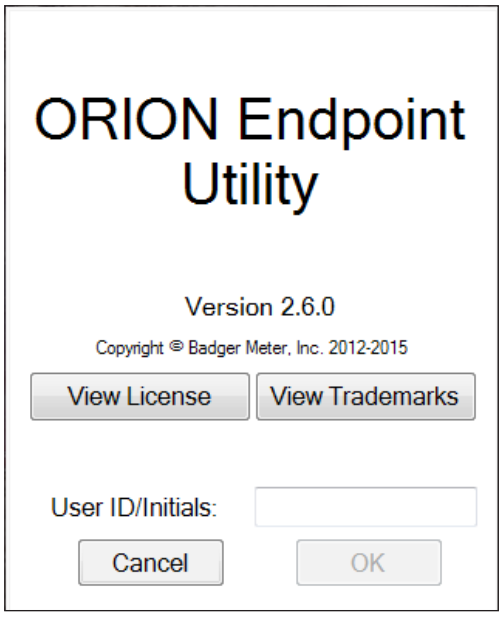


Figure 8: ORION Endpoint Utility login screen

(Optional) Click **View Trademarks** to see a list of trademarked products. To close the Trademarks screen and return to the login screen, click **Close**.

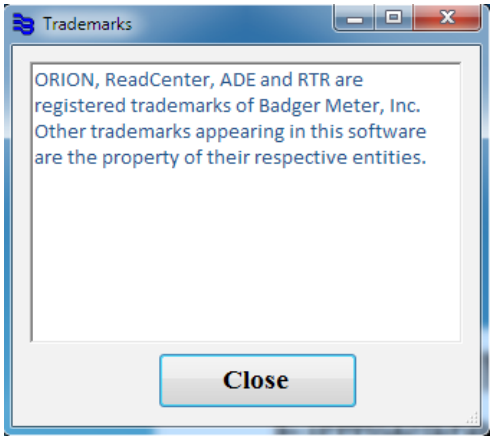

Trademarks
ORION, ReadCenter, ADE and RTR are registered trademarks of Badger Meter, Inc. Other trademarks appearing in this software are the property of their respective entities.
Close

Figure 9: Trademarks screen

3. Click the **OK** button on the login screen to open the software application.

   NOTE: Click **Cancel** if you want to exit without opening the software application.

   Result: The main screen is displayed as shown below. Login is complete.

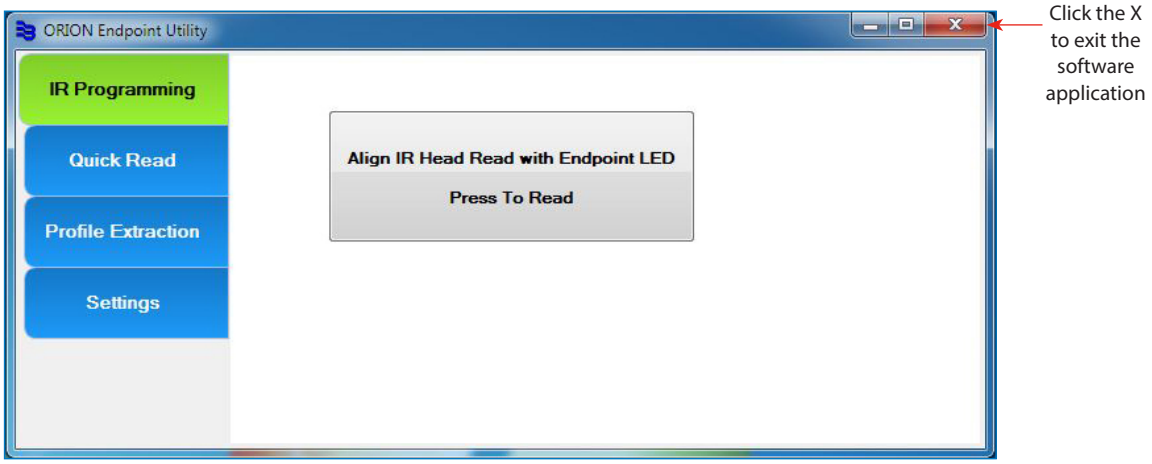


Figure 10: ORION Endpoint Utility main screen

NOTE: Remember to set the COM ports for any equipment attached to the computer before using the software application for the first time. See *"Settings" on page 13* for more information.

Exiting the Software

To close and exit the software application, click the **X** in the top right corner of any screen.

SETTINGS

Before you begin using the software application, use the **Settings** function to set the COM ports for the equipment attached to the computer.

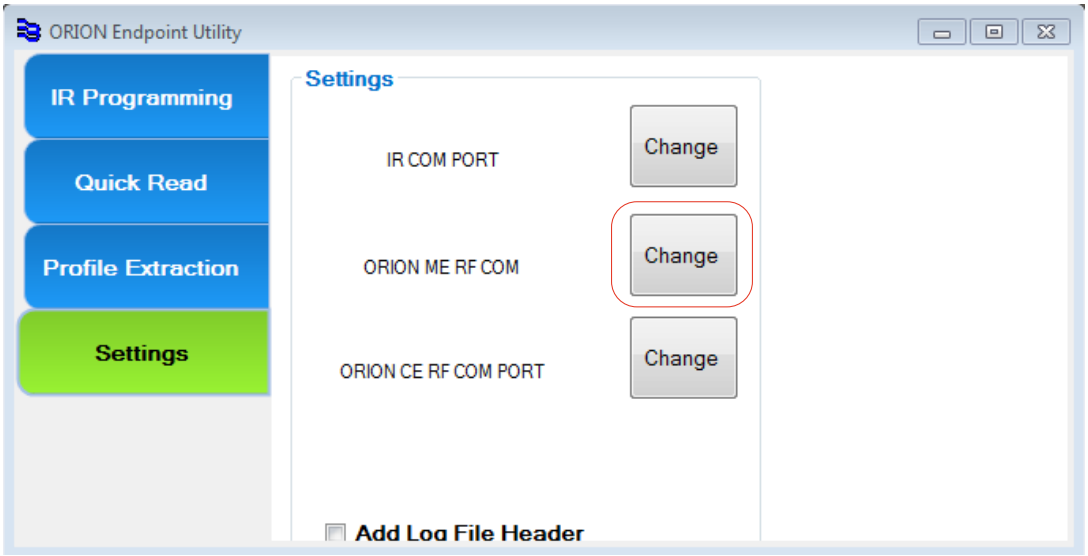


Figure 11: Settings screen for COM ports

IMPORTANT

If using an ORION mobile transceiver, make sure the ME driver is installed and the USB driver is configured according to the instructions. See "Installing the ME Driver" on page 53 and "Configuring the USB Settings (Windows 7 and Windows XP)" on page 61 for complete information.

Follow these steps to set the COM ports on the Setting screen.

1. On the main menu, click the **Settings** button to open the Settings screen.
2. Click the **Change** button to open the COM port selection window for the hardware attached to the laptop.

   For this example, the *ORION ME RF COM* **Change** button is selected. This button is used to select the COM port for the ORION mobile transceiver.

3. Choose the COM port that was shown on the laptop Device Manager screen for the mobile transceiver. See *"COM Ports" on page 10* for more information.

   Then click **Select**.

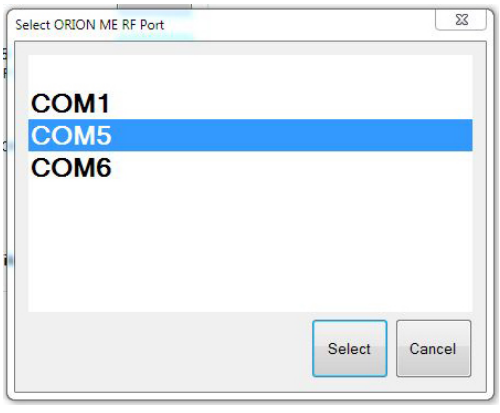


Figure 12: ORION ME RF COM port

In the example shown in *Figure 13*, "COM 5" is selected for *ORION ME RF COM*.

Result: The window closes, and the COM port you selected is displayed on the Settings screen.

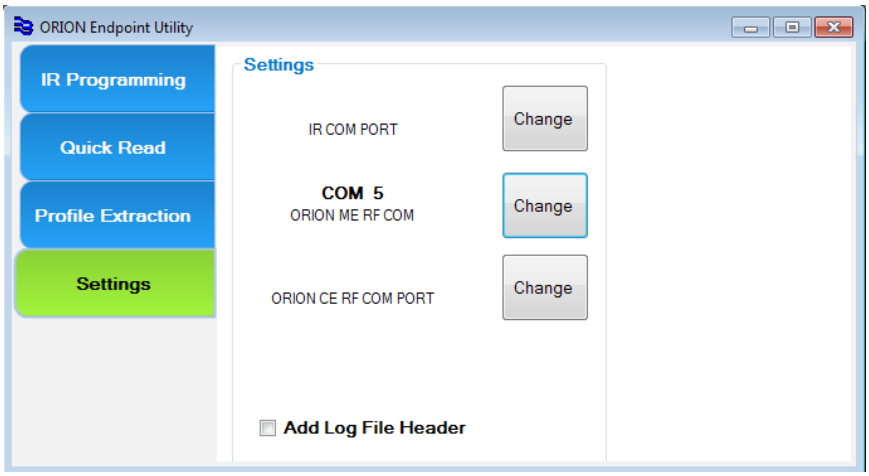


Figure 13: COM port set

4. Repeat steps 2 and 3 to set the COM port for any additional hardware connected to the laptop.

   When the COM ports are set, the software application is ready to use.

USER GUIDE

MAIN SCREEN

The software application main functions are listed in a menu on the left side of the software screens as shown in *Figure 14*.

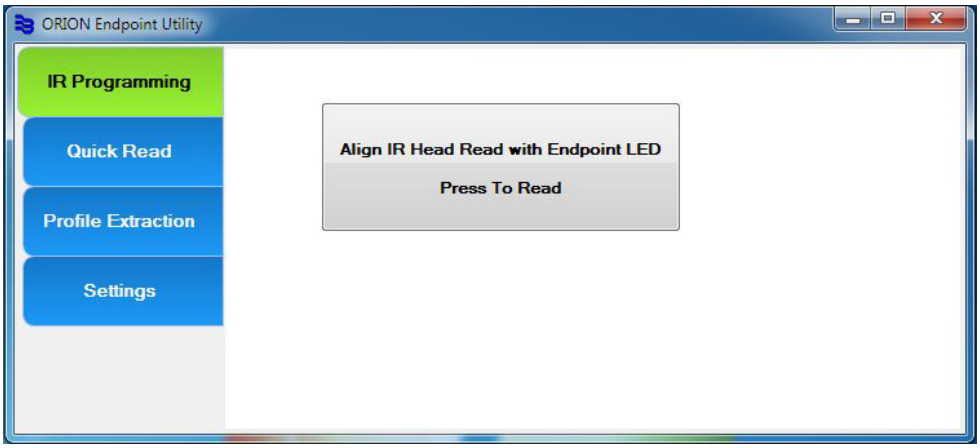


Figure 14: Main screen

Main Functions

IR Programming — Used to read and program ORION water and gas endpoints using the IR programming cable, including programming an endpoint following a tamper repair or retrofit installation (RTR water installations only). With the optical head of the IR cable aligned to the endpoint IR LED port, click the **Press to Read** button to use the IR Programming function. For additional information, see *"IR Programming" on page 17*.

Quick Read — Used to perform an RF Quick Read on all ORION water and gas endpoints within range of the ORION Endpoint Utility software using the RF mobile transceiver or receiver. Quick Read can also be used to read a specific ORION endpoint serial number. See *"Quick Read" on page 32*.

Profile Extraction — Used to perform an IR or RF extraction of an ORION endpoint's historical interval profile data for viewing in the ORION Profile Viewer software. See *"Profile Extraction" on page 37*.

Settings — Used to set or change the COM ports for the devices connected to the computer. See *"Settings" on page 13*.

Navigating the ORION Endpoint Utility Software

The main function buttons are always displayed in the left column as shown above. A button is green when selected.

Click the **X** at the top right corner of the screen to close and exit the software application.

IR PROGRAMMING

An example of an IR Programming screen for an ORION Migratable endpoint with an HR-E® LCD encoder on a water meter is shown in *Figure 15*. The fields and buttons on the screen vary depending on the following:

- Endpoint technology: ORION Fixed Network, ORION Migratable, ORION Classic
- Encoder type: HR-E LCD, HR-E, ENC (ADE®), RTR®, Permalog
- Meter type: E-Series®, Recordall® Disc, Compound Series, Turbo Series, Fire Series, Fire Hydrant
- Meter service: Water, Gas

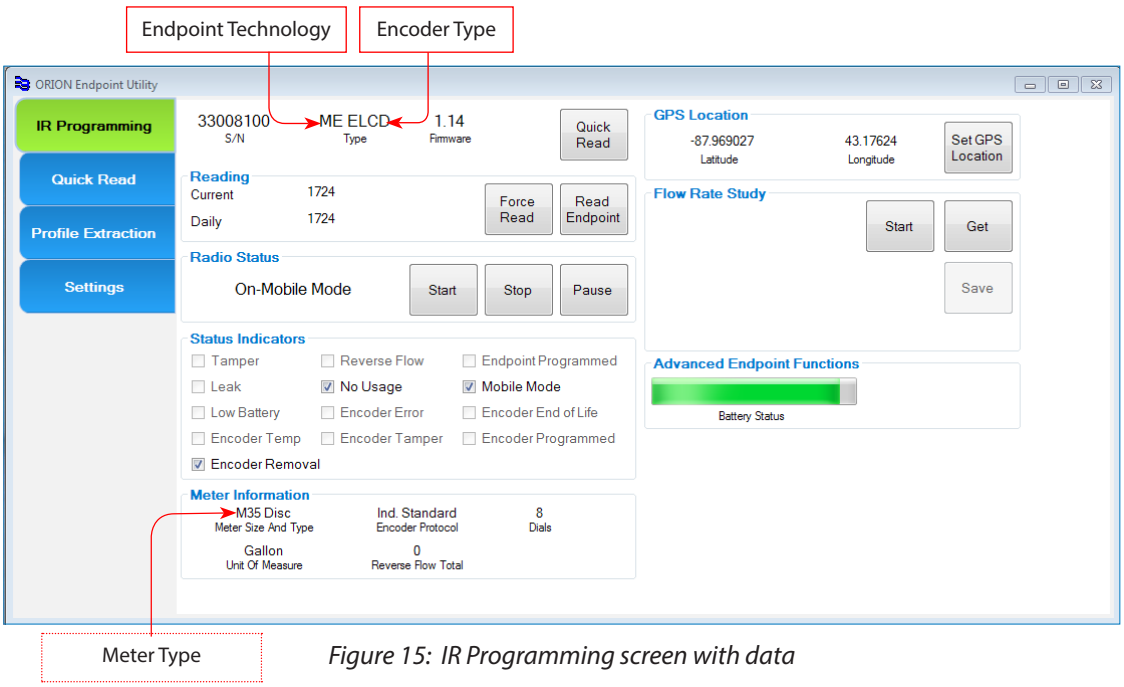


Figure 15: IR Programming screen with data

The endpoint technology, encoder type and meter type, together, define the information that will be displayed in the *Type* and *Meter Information* fields when performing the IR Programming functions.

Optional IR Programming Bracket

An IR Programming Bracket (PN: 65917-001) is available and can be used to assist in reading ORION endpoints. The bracket facilitates correct alignment between the IR optical read head of the programming cable and the IR port on the endpoint, ensuring a steady read position while leaving your hands free.

IR Programming Fields

Endpoint/Encoder Information, Reading, Radio Status			
	Displays For		
Field Label	***Endpoint Technology***	***Encoder Type***	***Description***
S/N	ME, SE, CE	All	Endpoint serial number.
Type	ME, SE, CE	All	Endpoint and encoder type. For gas meters, "Gas" displays in the Type field. If "Gas" does not display, the meter is water.
Firmware	ME, SE	All	Endpoint firmware version.
Current*	ME, SE, CE	All	Displays the current reading for the selected endpoint.
Daily*	ME, SE	All	Displays the time-synchronized daily endpoint reading value.
Radio Status	ME, SE, CE	All	Displays the current radio status of the endpoint.

* The reading value is the raw read without reading resolution applied.

Status Indicators			
Box is checked when an alert is reported. The status fields that display depend on the encoder and endpoint type.			
	Displays For		
Field Label	***Endpoint Technology***	***Encoder Type***	***Description***
Cover Removal	ME, SE	Gas	Endpoint is reporting a potential gas meter index cover tamper.
Encoder Empty Pipe	ME, SE	ELCD	E-Series meter is reporting a no flow condition in the pipe.
Encoder End of Life	ME, SE	ELCD	Encoder or E-Series meter is reporting to the endpoint that the encoder battery life indicator has been activated.
Encoder Error	ME, SE	ELCD, HR-E, ENC, Permalog	Encoder is reporting a device error to the endpoint.
Encoder Programmed	ME, SE	ELCD	Encoder or E-Series meter is reporting to the endpoint that it has been reprogrammed via IR.
Encoder Removal	ME, SE	ELCD	Encoder is reporting a removal condition to the endpoint.
Encoder Tamper	ME, SE	ELCD	Encoder is reporting a tamper condition.
Encoder Temp	ME, SE	ELCD	Encoder or E-Series meter is reporting to the endpoint that it senses temperatures outside the specified range.
Endpoint Programmed	ME, SE	All	Endpoint was programmed via IR.
Index Changed	ME, SE	RTR and Gas	Endpoint is reporting that the reading (odometer setting) was changed.
Leak	ME, SE, CE	HR-E, ENC, RTR, Permalog	Endpoint is reporting a potential leak condition.
		ELCD	Encoder or E-Series meter is reporting a potential leak condition to the endpoint.
Low Battery	ME, SE	All	Endpoint is reporting a low battery.
Mobile Mode	ME, SE	All	Endpoint is communicating in mobile mode.
No Usage	ME, SE, CE	HR-E, ENC, RTR and Gas	Endpoint is reporting a no usage condition.
		ELCD	Encoder or E-Series meter is reporting a potential no usage condition to the endpoint.
Reverse Flow	ME, SE, CE	HR-E, ENC and Gas	Endpoint is reporting a reverse flow condition.
		ELCD	Encoder or E-Series meter is reporting a reverse flow condition to the endpoint.
Sensor Error	ME, SE	ELCD	E-Series only. Meter is reporting a sensor error or meter alarm other than empty pipe or low temp.
Tamper	ME, SE, CE	ELCD, HR-E, ENC, RTR, Permalog and Gas remotes	Endpoint is reporting a tamper. This condition occurs when the wire between the encoder and the endpoint is cut or shorted, or the encoder is not connected.

NOTE: For more information about status indicators, refer to the following documents, available at *www.badgermeter.com*:

- HR-E, ENC and RTR: Refer to the *ORION Water Endpoint Product Data Sheet* for the endpoint type.
- HR-E LCD: Refer to the *HR-E LCD Encoder User M*anual.
- E-Series: Refer to the *E-Series Ultrasonic Meters User Manuals*.

Meter Information			
	Displays For		
Field Label	Endpoint Technology	Encoder Type	Description
Meter Size and Type	ME, SE	ELCD, HR-E, ENC, RTR	The size and type of the meter for which the encoder was programmed.
Unit of Measure	ME, SE	ELCD, HR-E, ENC, RTR	The unit of measure as defined by the encoder: cubic meters, cubic feet, gallons, imperial gallons or liters.
Encoder Type	ME, SE	ELCD, HR-E, ENC	The encoder protocol.
Dials	ME, SE	ELCD, HR-E, ENC	The encoder dial resolution as reported from the encoder.
Reverse Flow Total	ME, SE	ELCD	The total reverse flow units measured by the encoder or the E-Series meter.
Drive Circle	ME, SE, CE	Gas	Displays after initial read for gas endpoints only. Provides access to a read-only screen displaying the possible drive circles for the gas endpoint.
Direction	ME, SE	Gas	The direction for the drive gear.
Pressure Comp	ME, SE, CE	Gas	The gas pressure factor.

Flow Rate Study (ORION ME and SE)			
	Displays For		
Field Label	Endpoint Technology	Encoder Type	Description
Start Date Time	ME, SE	All	Date and time the Flow Rate Study was started. Fills when **Get** button is selected.
Intervals	ME, SE	All	The number of five-minute Intervals collected during the Flow Rate Study. Fills when **Get** button is selected.
Min Max Total	ME, SE	All	The Minimum and Maximum flow, and the Total counts collected. The fields fill when **Get** button is selected.

GPS Location (ORION ME and SE)			
	Displays For		
Field Label	Endpoint Technology	Encoder Type	Description
Latitude	ME, SE	All	Geographic coordinate specifying north-south position of the endpoint.
Longitude	ME, SE	All	Geographic coordinate specifying east-west position of the endpoint.

Advanced Endpoint Functions (ORION ME and SE)			
	Displays For		
Field Label	Endpoint Technology	Encoder Type	Description
Battery Status	ME, SE	All	Visual indicator of the endpoint battery status.

IR Programming Buttons

Reading			
	Displays For		
Button Label	***Endpoint Technology***	***Encoder Type***	***Description***
Quick Read	All	All	Initiates an RF Quick Read for the selected endpoint.
High Power	CE	All	Forces a brief high powered signal from the endpoint to a gateway receiver.
Program/ Force Read	All	All	Toggles, based on the encoder type. For ORION water endpoints with an RTR, **Program** is used to set the endpoint odometer value following a tamper repair. With an ADE or HR-E LCD encoder or with an E-Series meter, **Force Read** is used to view the real-time encoder odometer value.
Read Endpoint	All	All	Initiates IR communication between the software and the endpoint.

Radio Status			
	Displays For		
Button Label	***Endpoint Technology***	***Encoder Type***	***Description***
Start	All	All	Starts endpoint radio. "On-Mobile Mode" is shown in the *Radio Status* field.
Stop	All	All	Stops endpoint radio. "Stopped" is shown in the *Radio Status* field. A stopped endpoint must be reprogrammed to begin transmitting again. With an ORION Migratable or Fixed Network endpoint, the endpoint historical interval data (profile data) is cleared when the endpoint is restarted.
Pause	All	All	Pauses endpoint transmission temporarily until a unit of water or gas is registered. "Paused" is shown in the *Radio Status* field.

Meter Information			
	Displays For		
Button Label	***Endpoint Technology***	***Encoder Type***	***Description***
Change	ME, SE	HR-E, ENC, RTR, Gas	For water meters, used to change the meter size, type and/or units of measure. For gas meters, used to change the drive circle (units, dials and resolution), pressure and direction.
	CE	Gas	

GPS Location (ORION ME and SE)			
	Displays For		
Button Label	***Endpoint Technology***	***Encoder Type***	***Description***
Set GPS Location	ME, SE	All	Brings up a window in which you can enter the latitude and longitude for the endpoint.

Flow Rate Study (ORION ME and SE)			
	Displays For		
Button Label	***Endpoint Technology***	***Encoder Type***	***Description***
Start	ME, SE	All	Used to start the flow rate study.
Get	ME, SE	All	Used to get the results of the flow rate study.
Save	ME, SE	All	Used to save the flow rate study results. Displays where the file is saved.

Reading and Programming Endpoints

Reading an Endpoint

1. With the **IR Programming** button selected, align the optical head of the IR cable with the endpoint IR LED port.

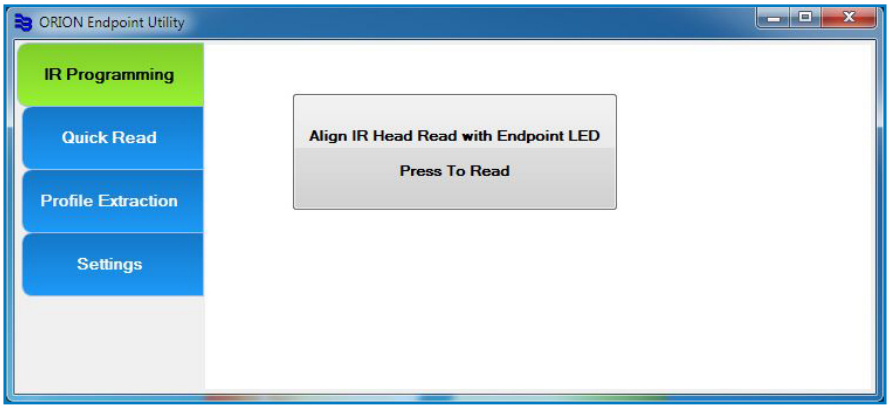


Figure 16: ORION Endpoint Utility main screen with IR Programming selected

2. Click **Press to Read**.

   Result: The endpoint type, meter details and the current read fill the screen. The example in Figure 17 is an ORION Migratable endpoint. The reading is the raw value without read resolution applied.

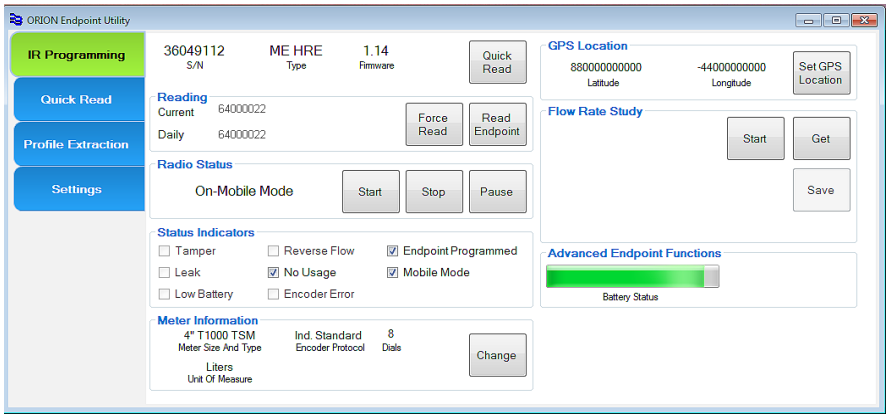


Figure 17: IR Programming screen for ORION Migratable endpoint with HR-E

3. To read another endpoint, align the optical head of the IR cable with the next endpoint IR LED port and click the **Read Endpoint** button.

   Result: The new endpoint details are displayed. The example In Figure 18 shows an ORION Classic endpoint reading.

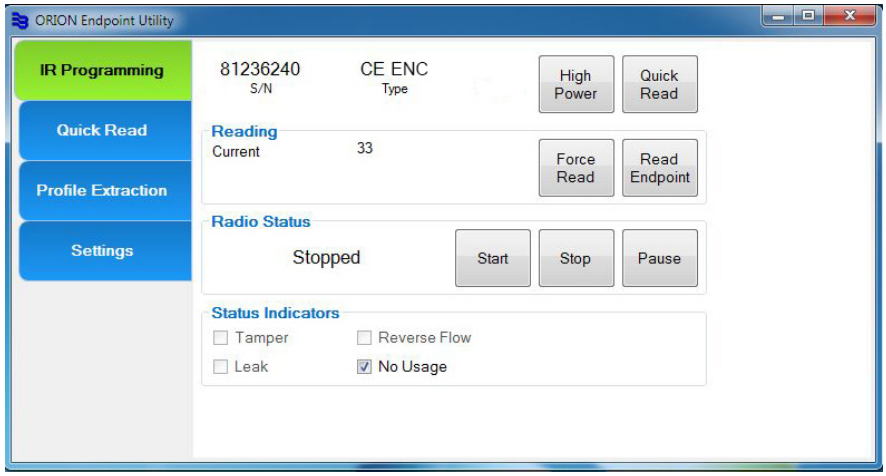
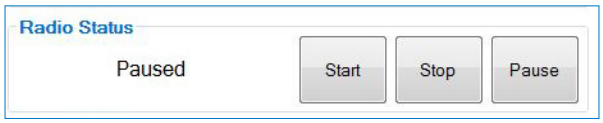


Figure 18: IR Programming screen for ORION Classic endpoint with ENC

Stop, Pause, Start

ORION water endpoints are programmed at the factory to begin sending meter readings when the register senses flow through the meter. As a result, ORION endpoints can be installed on meters without having to manually start the endpoint. Once water usage has been registered on the meter, the endpoint sends a signal every four seconds (ORION Classic) or every five to six seconds (ORION Migratable and Fixed Network).



The following statuses may display in the *Radio Status* field on the IR Programming screen.

Stopped	Endpoint is not transmitting. The endpoint radio is stopped and must be started to begin transmitting again. For ORION Migratable and Fixed Network endpoints, any stored historical interval data (profile data) will be cleared when the endpoint is restarted. **NOTE:** An ORION endpoint with an RTR must be programmed to restart.
Paused	Endpoint radio transmission is temporarily stopped until water flow is registered.
On Mobile Mode	ORION Migratable and Fixed Network: Endpoint is sending/receiving communications in mobile radio mode until and unless the endpoint establishes communication and is assigned to a network gateway. An endpoint in mobile mode sends a message requesting gateway assignment as frequently as once an hour.* ORION Classic: Endpoint always displays *On Mobile Mode* when transmitting.
Discovery Mode	For troubleshooting only. To be used under the direction of Badger Meter Technical Support.
On-Fixed Mode	Endpoint is assigned to a network gateway for fixed network data collection. Endpoints in network *On-Fixed Mode* can also be received by the mobile transceiver.* An endpoint will revert to *On Mobile Mode* if it fails to receive a response from a gateway for four consecutive days. Once communication is re-established with the gateway, the endpoint automatically transitions to *On-Fixed Mode*.

* Depending on the endpoint firmware version.

- The **Start** button is used to start an endpoint radio before usage is registered. Align the optical head of the IR cable with the endpoint IR LED port and tap **Start**. Radio Status changes to "On Mobile Mode."
- The **Pause** button is used to pause the radio signal temporarily. Align the optical head of the IR cable with the endpoint IR LED port and tap **Pause**. The endpoint radio begins transmitting again when a unit of water or gas is registered from the meter.
- The **Stop** button is used to stop an endpoint radio from sending a signal, regardless of the usage registered from the meter. Align the optical head of the IR cable with the endpoint IR LED port and tap **Stop**.

NOTE: Stopped radios must be restarted using the **Start** function and will not automatically restart when usage is registered by the meter. When ORION ME or SE endpoints are used with an RTR, the odometer value must also be programmed to reflect the current registration reading. When used with E-LCD, HR-E and ADE encoders or E-Series meters, the odometer value is automatically updated within the hour.

⚠WARNING

The historical interval data (profile data) of ORION Migratable and Fixed Network endpoints is cleared when the endpoint is restarted. The message shown in *Figure 19* displays when you click **Stop**.

Click **Yes** if you are sure you want to stop the endpoint and clear the endpoint history.

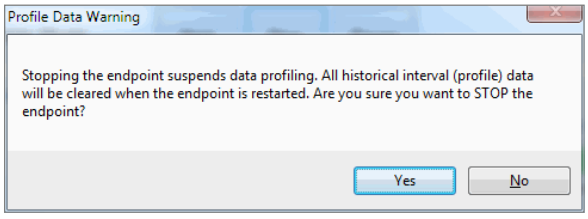

Profile Data Warning
Stopping the endpoint suspends data profiling. All historical interval (profile) data will be cleared when the endpoint is restarted. Are you sure you want to STOP the endpoint?
Yes
No

Figure 19: Profile data warning message

Programming an RTR Endpoint to the Odometer Setting

To install an ORION endpoint on an active meter with usage on an RTR, use the following information to ensure that the value in the endpoint matches the current odometer value on the RTR once the endpoint is connected to the RTR.

With an RTR, you must also program and set the endpoint to the RTR odometer value following a tamper repair.

NOTE: An ORION endpoint connected to an ADE, E-LCD or approved competitive three-wire encoder or an ADE or High Resolution E-Series Ultrasonic meter does not require programming to clear a tamper. After the wires have been repaired, the endpoint is automatically updated to reflect the register odometer value in the first hour after the wires have been repaired.

IMPORTANT

Stopping an endpoint suspends data profiling. Restarting clears all historical interval data (profile data) and places fixed mode endpoints into mobile mode. Endpoints in mobile mode may not revert to fixed mode for up to 48 hours.

Reading the Odometer

To install an ORION Migratable endpoint on an active meter with usage on the RTR, use the following information to ensure that the value in the endpoint matches the current odometer value on the RTR once the endpoint is connected to the RTR.

When programming ORION endpoints, enter the value of the six moveable odometer wheels plus the sweep hand for all meter types (gallons, cubic feet, etc.) and all meter models.

In the example shown, the odometer value in the moveable dials (both white and black digits) is "000001."

The sweep hand is pointing between the "6" and the "7" but because the sweep hand has not yet hit the "7", use "6" as the value for the last digit of the meter reading. In this example, the value to be entered into the ORION endpoint *Current Reading* field would be "16"or "0000016." (The leading zeros are not required.)

Figure 20: RTR odometer

When programming an ORION endpoint connected to an E-Series meter with an RTR protocol, program the seven most significant (left most) digits shown on the meter display.

Figure 21: E-Series meter display

Follow this procedure for programming an RTR endpoint to the odometer setting.

1. On the IR programming screen, double-click in the *Current Reading* field to select the current read value.

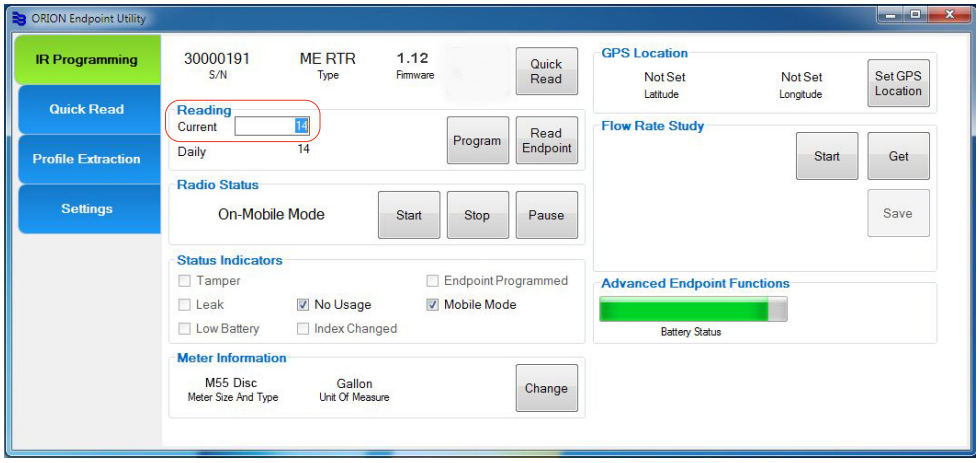


Figure 22: Current Reading field

2. Using the keyboard, enter the RTR odometer value in the *Current Reading* field.

   Result: The field background is highlighted to indicate an unprogrammed value has been entered.

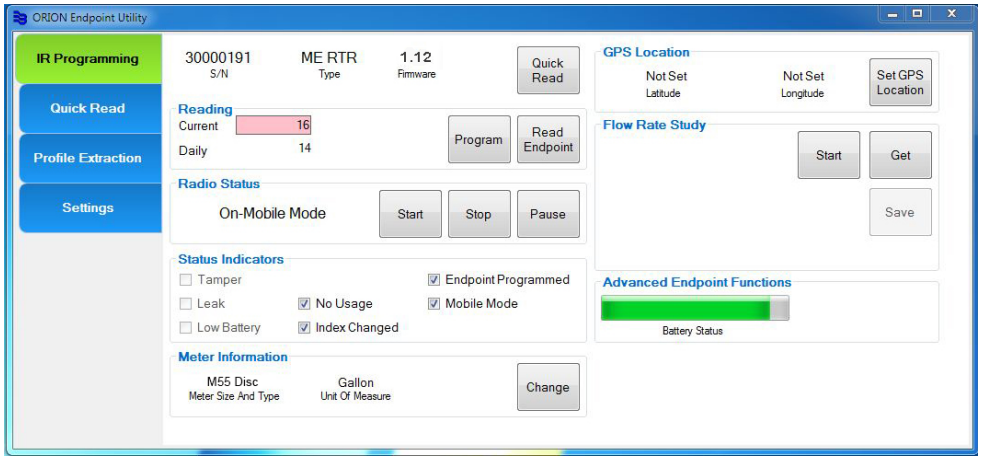


Figure 23: Current Reading field highlighted

Align the optical head of the IR cable with the endpoint IR LED port and click the **Program** button.

Hold the optical head of the IR cable steady.

The endpoint is programmed when the *Current Reading* field background clears.

Figure 24: Current Reading field programmed

NOTE: The Status Indicators are also updated to show *Index Changed* and *Endpoint Programmed*.

Programming Water Meter Type, Size and Units of Measure (ORION ME/SE)

To program the water meter type and size for an RTR or ADE, follow these steps.

NOTE: The water meter type, size and units of measure for endpoints connected to an HR-E or ELCD encoder type are obtained from the encoder and are not programmable.

1. Align the optical head of the IR cable with the endpoint IR LED port.
2. Click **Read Endpoint** if a reading is not already registered.
3. Click the **Change** button in the *Meter Information* section of the screen.

   Result: The Change Meter Information window opens.

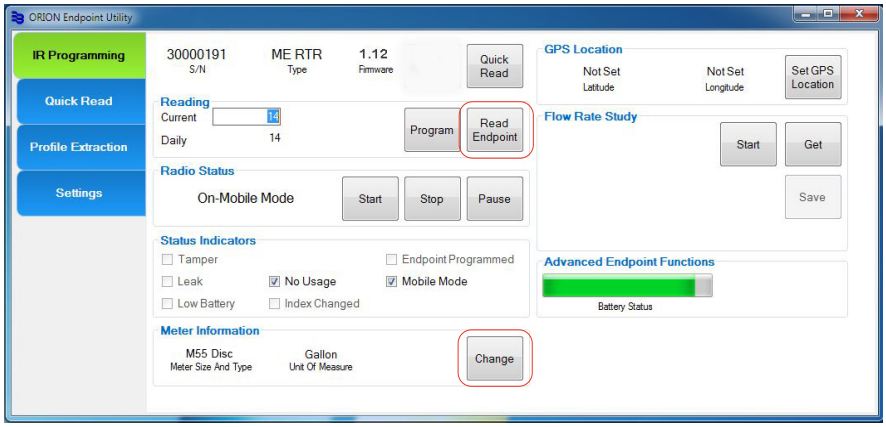


Figure 25: Change button

4. Scroll through the list and click to select the appropriate Meter Size And Type and Unit Of Measure.
5. Align the optical head of the IR cable with the endpoint IR LED port and click **Program**.

   *Result: New Meter Information is displayed on the IR Programming screen as shown (Figure 27). The Status Indicators are also updated to show **Endpoint Programmed**.*

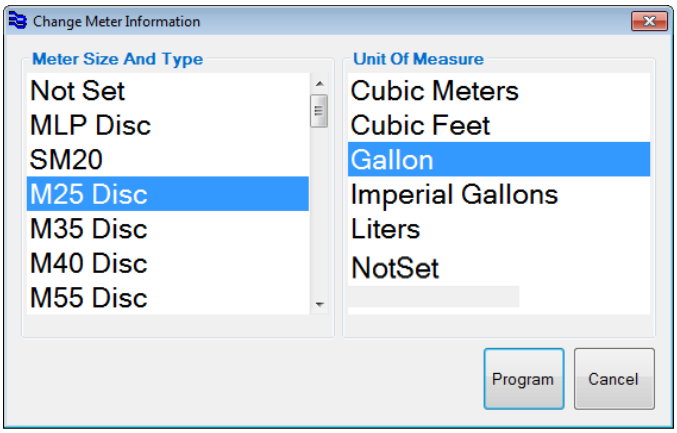


Figure 26: Meter Size, Type, Unit of Measure

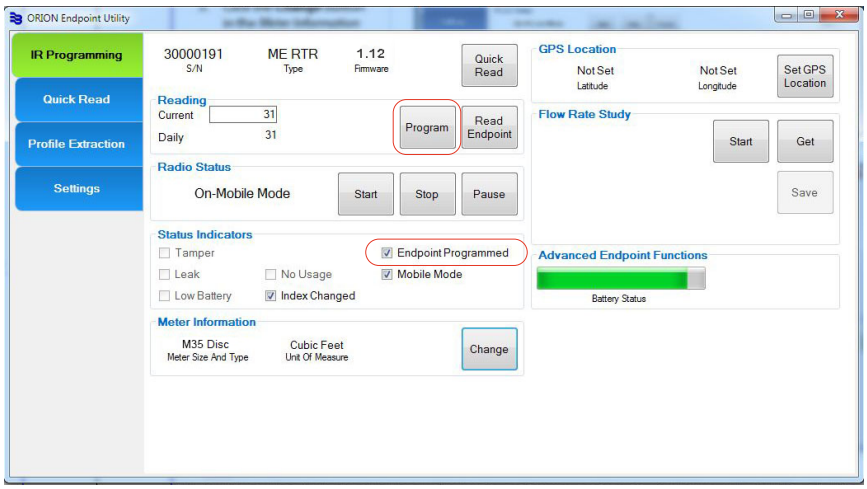


Figure 27: Meter Type, Size, Unit of Measure programmed

NOTE: For gas meters, see *"Programming Gas Endpoints" on page 27*.

Force Read (Encoder Output)

When an ORION endpoint is connected to a device with encoder output (high resolution or ADE), the **Force Read** button displays instead of the **Program** button.

Force Read is used to view the real-time encoder odometer value and to verify a successful tamper repair.

1. Align the optical head of the IR cable with the endpoint IR LED port.
2. Click **Force Read** on the IR Programming screen.

   Result: The reading value updates to reflect the current encoder odometer value.

   *If the tamper condition is successfully repaired and the tamper no longer exists, the **Tamper** Status Indicator clears.*

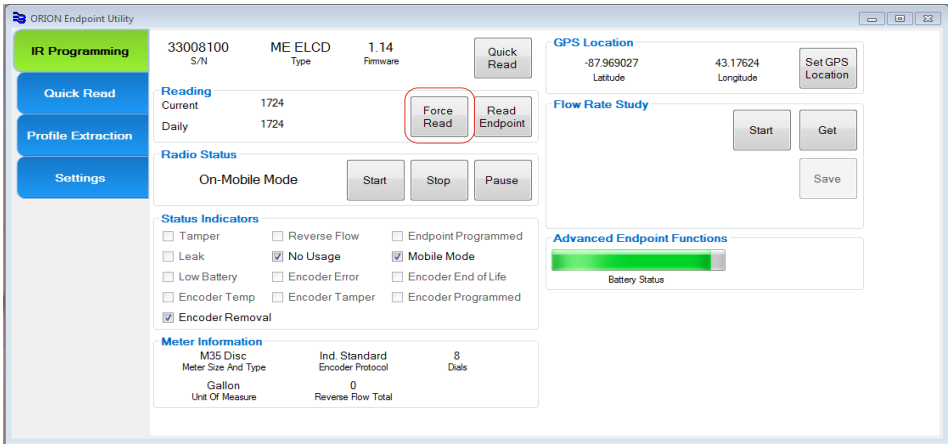


Figure 28: Force Read

Programming Gas Endpoints

The procedure below is for programming an ORION Migratable/Fixed Network gas endpoint. Perform the same steps for an ORION Classic gas endpoint. For a description of the fields and buttons on the screens, see *"IR Programming Fields" on page 17* and *"IR Programming Buttons" on page 20*.

Program a Read for a Gas Endpoint

1. From the main menu, click **IR Programming**.
2. Align the optical head of the IR cable with the gas endpoint IR LED port.
3. Click the **Press to Read** button.

   Result: The IR Programming screen displays for the endpoint.

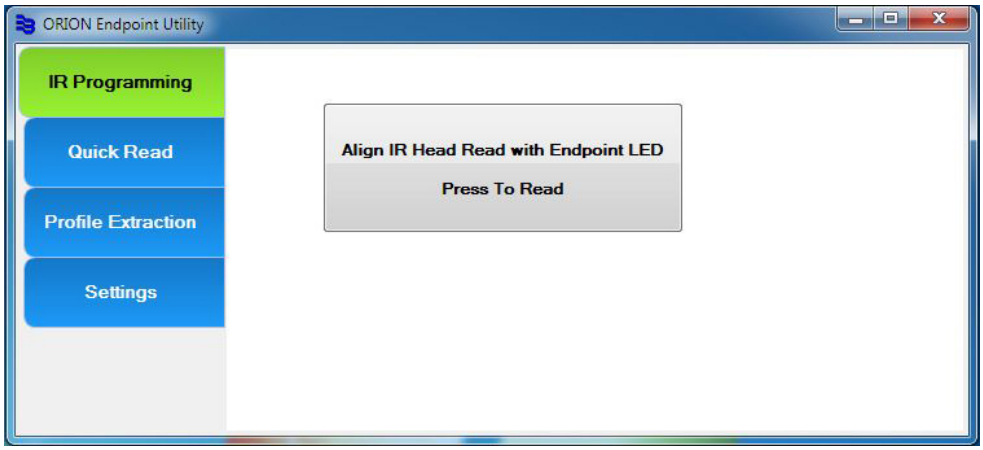


Figure 29: Main menu

4. On the IR programming screen, double-click in the *Current Reading* field to select the current read value.

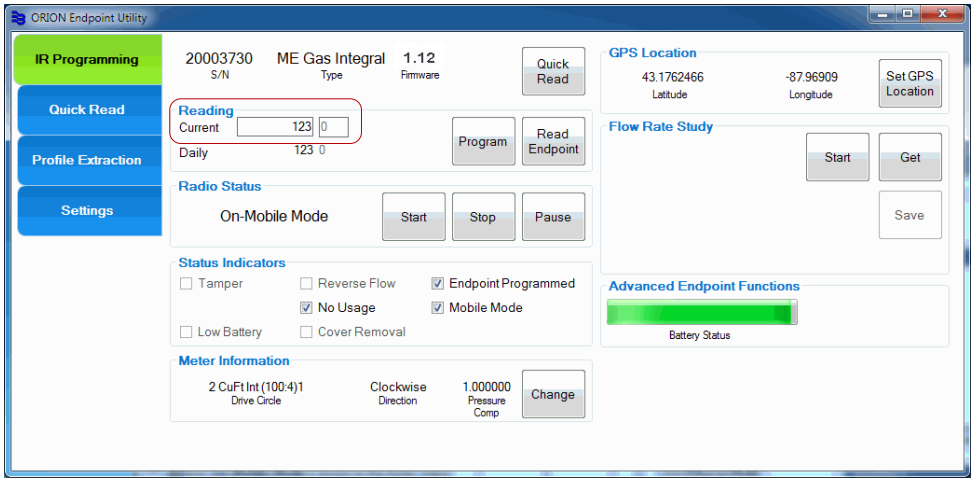


Figure 30: IR Programming screen for gas endpoint

5. Using the keyboard, enter the new value in the *Current Reading* field.

   Result: The field background is highlighted to indicate an unprogrammed value has been entered.

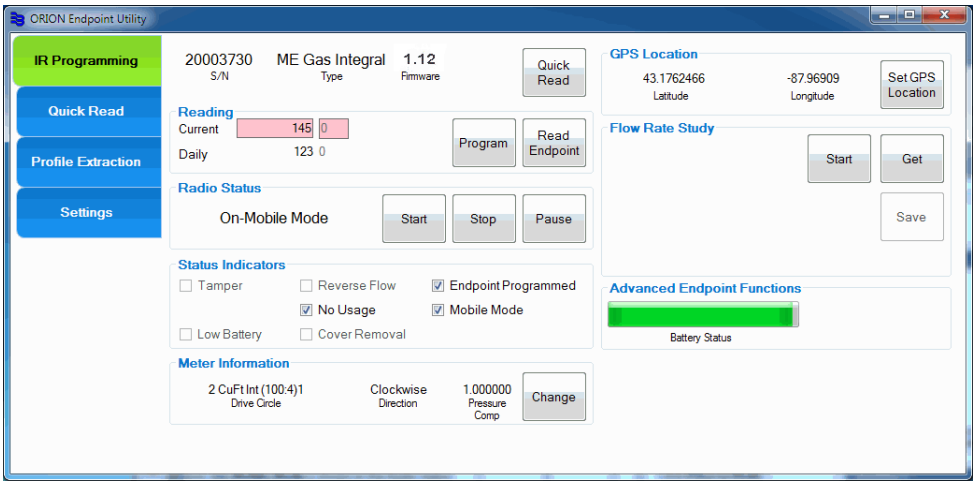


Figure 31: Current Reading field highlighted

Align the optical head of the IR cable with the endpoint IR LED port and click the **Program** button.

Hold the optical head of the IR cable steady.

The highlighted background in the *Current Reading* field is cleared when the endpoint read is programmed.

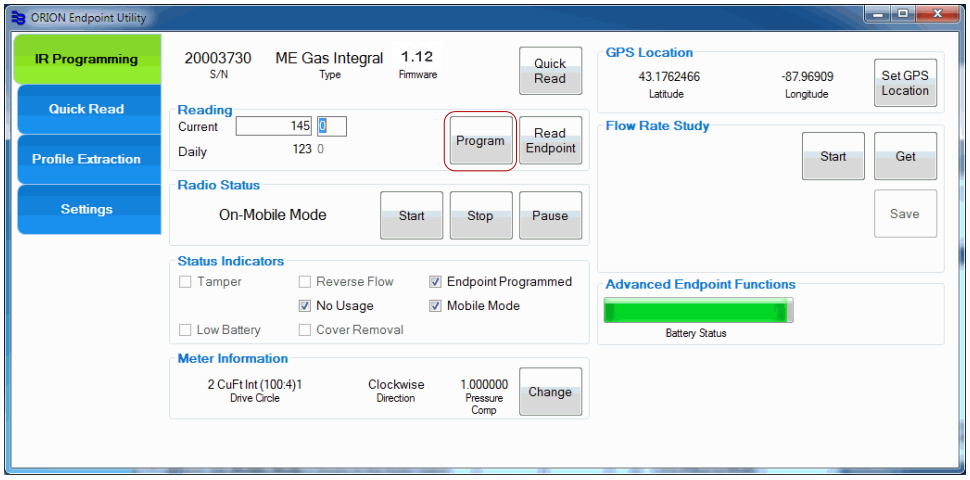


Figure 32: Current Reading field clears when programmed

6. Visually verify that the anticipated index reading is reflected in the *Current Reading* field. If it is not, repeat steps 4…6.

Change and Program the Gas Drive Circle

1. Click the **Change** button in the *Meter Information* section of the IR Programming screen.
   Result: The Change Drive Circle window opens.
2. Locate the Drive Circle.
   - Use the selections in the top half of the screen to filter the list on the bottom by choosing **Integral** or **Remote**, and choosing the Units, Dials and Res (resolution).
   - Or just scroll through the list in the bottom half of the window to find the drive circle for the endpoint.
3. Click to select the drive circle.
4. Tap in the **Pressure** field. Use the keyboard to enter the pressure factor, if applicable.

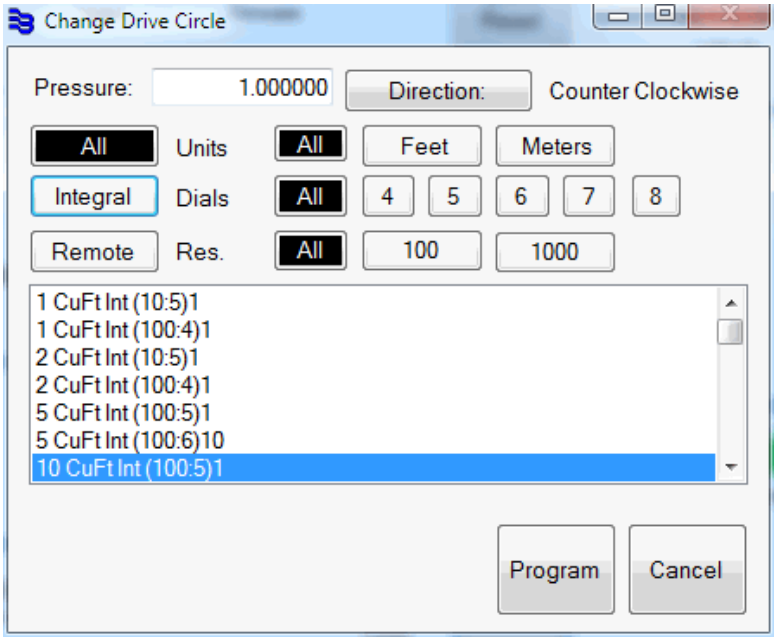


Figure 33: Change Drive Circle

5. Tap **Direction**. Then select the direction for the drive gear, if applicable.
6. Align the optical head of the IR cable with gas endpoint IR LED port and click **Program**.

Result: The new Meter Information is displayed on the IR Programming screen and the Endpoint Programmed Status Indicator is selected.

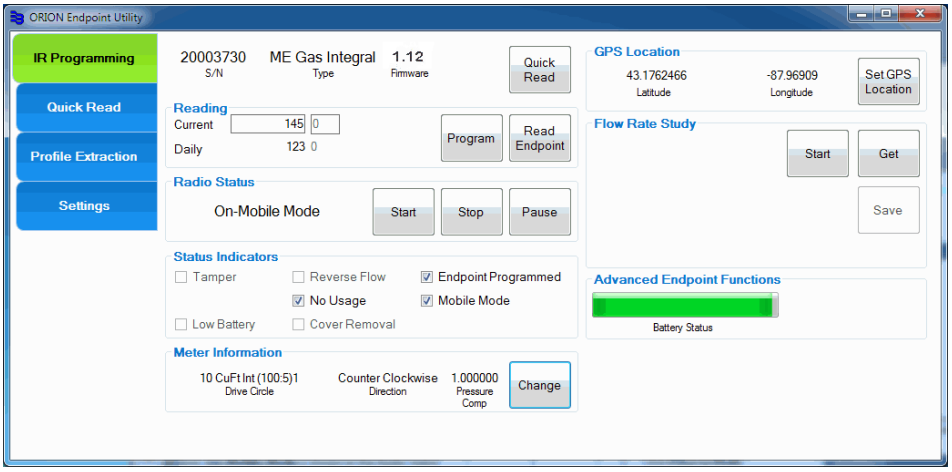


Figure 34: Meter programmed

7. Visually verify that the anticipated drive circle, direction and pressure compensation values are reflected in the Meter Information section of the screen. If they are not, repeat steps 1…6.

GPS Location (ORION ME/SE)

If the latitude and longitude are not set or need to be changed, you can set them manually for any ORION Migratable or Fixed Network (in mobile mode) endpoint.

1. Click the **Set GPS Location** button in the *GPS Location* section of the IR Programming screen.
   Result: The GPS Input window opens.
2. Enter the Latitude and Longitude in each field, respectively.
   NOTE: The field will only accept numeric characters, decimal point (period) and minus sign (–).

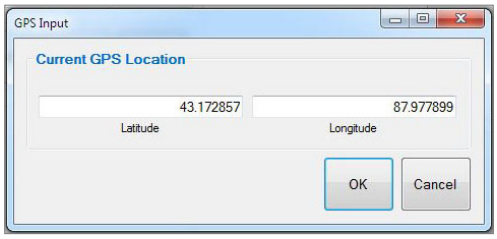


Figure 35: GPS Location

3. Align the optical head of the IR cable with the endpoint IR LED port and click **OK**.
   Result: The GPS Input window closes and the Latitude and Longitude you entered display on the IR Programming screen.

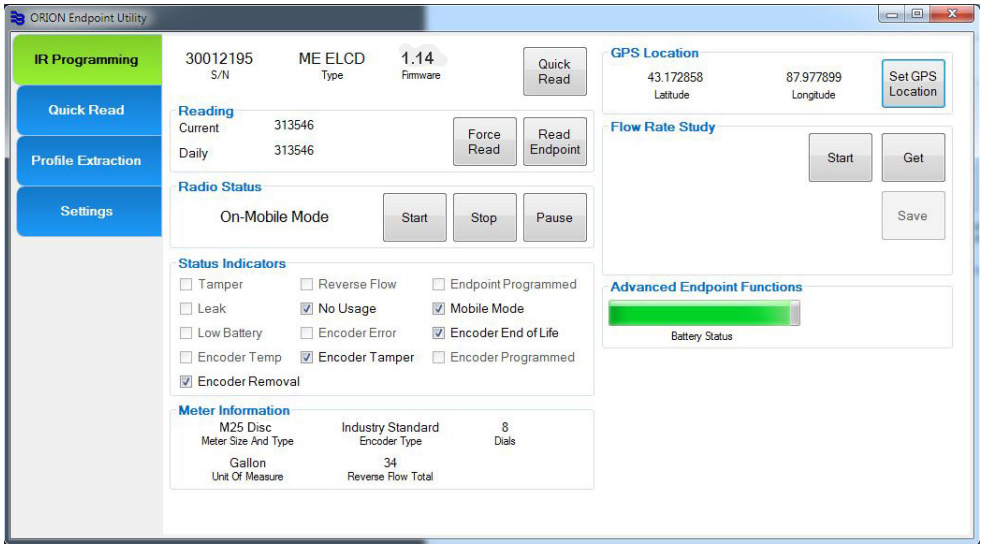


Figure 36: GPS Location set

Flow Rate Study (ORION ME/SE)

A flow rate study is a week-long study that can be performed on an ORION Migratable or Fixed Network (in mobile mode) endpoint to report high, low and average flow rates.

A flow rate study can also be requested on the Advanced Endpoint Details screen available via the Quick Read screen.

Starting a Flow Rate Study

With the optical head of the IR cable aligned with the endpoint IR LED port, tap the **Start** button in the *Flow Rate Study* section of the IR Programming screen.

Result: A message window opens to confirm the successful start of the flow rate study. The study continues for one week from the start time and date.

Figure 37: Start Flow Rate Study

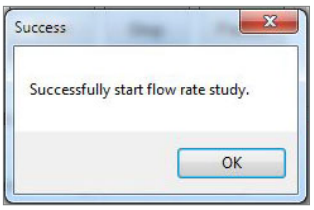


Figure 38: Flow Rate Study started

Getting Flow Rate Study Results

1. At the end of a week-long flow rate study, align the optical head of the IR cable with the endpoint IR LED port and tap the **Get** button in the *Flow Rate Study* section of the IR Programming screen.

   *Result: The data from the study fills in the field next to the **Start**, **Get** and **Save** buttons as shown. The flow study data includes the minimum, maximum and total usage for the week.*

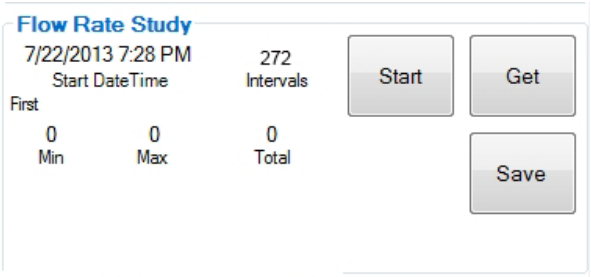


Figure 39: Flow Rate Study results

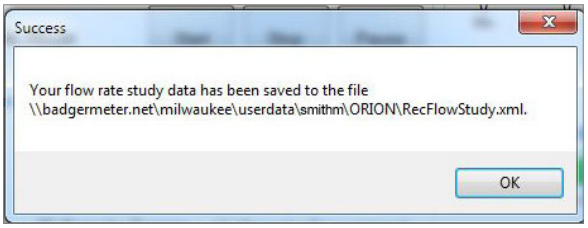


Figure 40: Flow Rate Study results saved

2. Tap the **Save** button to create a file of the flow rate study data.

   Result: A screen display showing the location of the saved file.

3. Tap **OK** to close the window.

QUICK READ

The Quick Read screen can be used to display readings for all ORION Migratable, Fixed Network (in mobile mode) and Classic endpoints in range. One endpoint may display several readings during an RF (radio frequency) Quick Read.

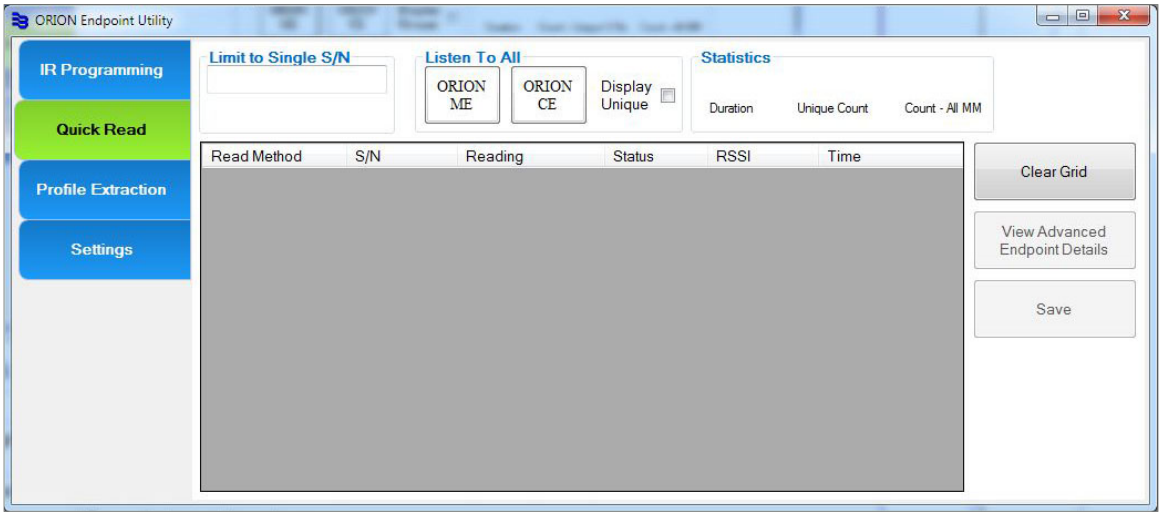


Figure 41: Quick Read screen

RF Quick Read Fields

Limit to Single S/N When an endpoint serial number is entered, performs a Quick Read on the endpoint entered via RF. Click in the field and type the serial number for the endpoint you want to read.

Display Unique Check the box to display each unique endpoint serial number once only.

Read Method Displays endpoint and encoder type. "Gas" is displayed for gas meters.

S/N The endpoint serial number.

Reading Current reading for the corresponding endpoint serial number. The reading is the raw value without reading resolution applied.

Status Displays potential exception issues such as a tamper or no usage. If no exceptions are noted, the *Status* field is blank.

RSSI Bar showing the relative signal strength of the endpoint to mobile transceiver or receiver communication.

Time The date and time of the Quick Read.

Statistics

Duration The elapsed time in seconds since the Quick Read started. This field continues to update during the Quick Read.

Unique Count The number of unique endpoint serial numbers heard. This field continues to update during the Quick Read.

Count - All MM The number of endpoint messages heard by the mobile transceiver or receiver. This field continues to update during the Quick Read.

RF Quick Read Buttons

ORION ME	Click **ORION ME** to Quick Read all ORION Migratable or Fixed Network (in mobile mode) endpoints within range. Click again to stop reading.
ORION CE	Click **ORION CE** to Quick Read all ORION Classic endpoints within range. Click again to stop reading.
Clear Grid	Removes the current grid display and refreshes the screen so you can change selections. The *Statistics* field clears and restarts with the next Quick Read.
View Advanced Endpoint Details	Provides additional information which has been programmed into an ORION Migratable or Fixed Network endpoint. Select an endpoint in the grid before clicking the button.
Save	Saves the Quick Read in the grid as a .csv file. Window opens to show where and when the file is saved.

NOTE: When performing the procedures described in this section, make sure the equipment for the endpoints you are reading is connected to the laptop, and the COM ports are set correctly. See *"Equipment Setup" on page 9* and *"COM Ports" on page 10* if you need help.

RF Quick Read - All Endpoints

The example below is for ORION Migratable or Fixed Network (in mobile mode) endpoints. If you are reading ORION Classic endpoints, perform the same steps using the **ORION CE** button.

NOTE: To read both ORION Migratable and ORION Classic endpoints simultaneously, see *"Changing Quick Read Technology" on page 35*.

1. Click **Quick Read** on the main menu.
2. Click the **ORION ME** button to start.

   *Result: The **ORION ME** button becomes green to indicate communication with the endpoints.*
   The fields on the screen begin to fill with readings and the Statistics section changes to reflect the elapsed time and number of readings.

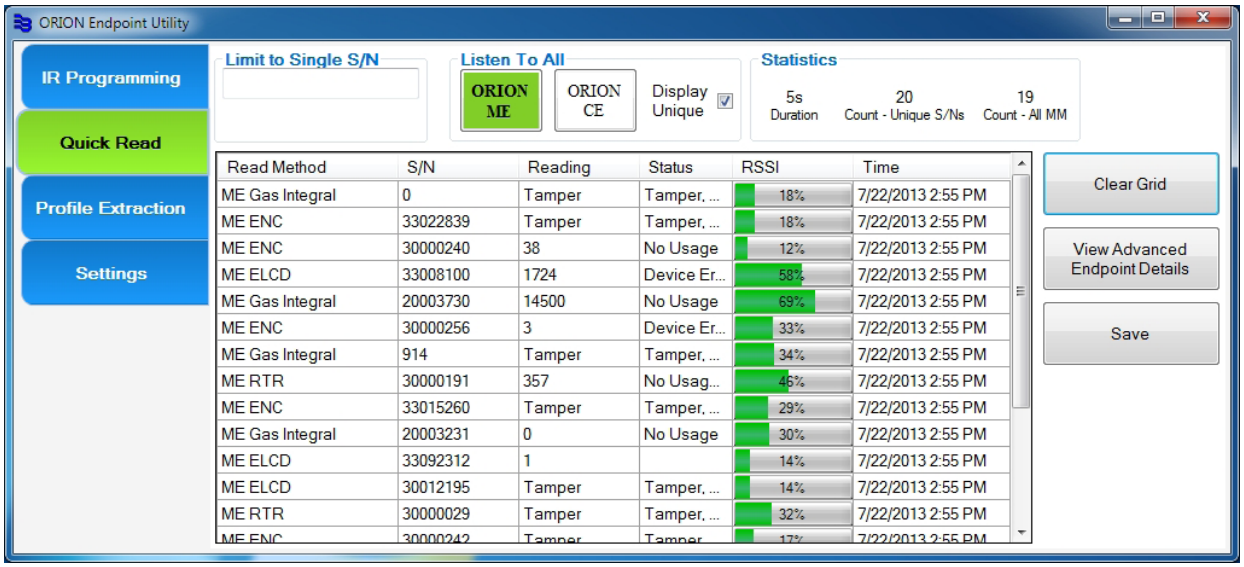

ORION Endpoint Utility
IR Programming
Quick Read
Profile Extraction
Settings
Limit to Single S/N
Listen To All
ORION ME
ORION CE
Display Unique
Statistics
5s Duration
20 Count - Unique S/Ns
19 Count - All MM
Read Method
S/N
Reading
Status
RSSI
Time
ME Gas Integral 0 Tamper Tamper, ... 18% 7/22/2013 2:55 PM
ME ENC 33022839 Tamper Tamper, ... 18% 7/22/2013 2:55 PM
ME ENC 30000240 38 No Usage 12% 7/22/2013 2:55 PM
ME ELCD 33008100 1724 Device Er... 58% 7/22/2013 2:55 PM
ME Gas Integral 20003730 14500 No Usage 69% 7/22/2013 2:55 PM
ME ENC 30000256 3 Device Er... 33% 7/22/2013 2:55 PM
ME Gas Integral 914 Tamper Tamper, ... 34% 7/22/2013 2:55 PM
ME RTR 30000191 357 No Usag... 46% 7/22/2013 2:55 PM
ME ENC 33015260 Tamper Tamper, ... 29% 7/22/2013 2:55 PM
ME Gas Integral 20003231 0 No Usage 30% 7/22/2013 2:55 PM
ME ELCD 33092312 1 14% 7/22/2013 2:55 PM
ME ELCD 30012195 Tamper Tamper, ... 14% 7/22/2013 2:55 PM
ME RTR 30000029 Tamper Tamper, ... 32% 7/22/2013 2:55 PM
Clear Grid
View Advanced Endpoint Details
Save

Figure 42: ORION ME Quick Read

3. Click the **ORION ME** button again to pause or stop the Quick Read.

   Result: The button becomes clear and the readings stop.

For a single endpoint read:

4. To view readings for a single endpoint serial number, click the row of the endpoint you want to read.

   Result: The endpoint serial number fills in the Limit to Single S/N field.

5. Click the **ORION ME** button again.

   Result: The button becomes green and the readings that are displayed are for the single endpoint serial number you selected.

6. Click the **ORION ME** button again to stop the Quick Read.

Changing Quick Read Technology

When reading both ORION Migratable (or Fixed Network in mobile mode) and ORION Classic endpoints, you can quickly change from one technology to the other and back again, or listen simultaneously.

NOTE: Make sure the mobile transceiver and mobile receiver are connected. For help, see *"Vehicle and Laptop Setup with Mobile Transceiver and/or Mobile Receiver" on page 9*.

Steps 1...4 of the following procedure describes changing from an ORION ME Quick Read to an ORION CE Quick Read. The same steps can be performed to change from an ORION CE Quick Read to an ORION ME Quick Read by selecting the opposite buttons.

1. After performing a Quick Read, click the **ORION ME** button to stop the read.

   Result: The button becomes clear and the readings stop.
2. Click **Clear Grid** to clear the Quick Read screen.
3. Click the **ORION CE** button to start a Quick Read of all ORION Classic endpoints.
4. Click the **ORION CE** button again to stop the Quick Read.

To read ORION Migratable and ORION Classic endpoints simultaneously:

5. Click **Clear Grid** to clear the Quick Read screen.
6. Click the **ORION ME** button and the **ORION CE** button.

   Result: Readings for both ORION Migratable and Classic endpoints are displayed in the grid.
7. Click the **ORION ME** and **ORION CE** buttons again to stop the Quick Read.

RF Quick Read - Single Endpoint

1. Click the **Quick Read** button on the main menu.
2. Click in the *Limit to Single S/N* field and use the keyboard to enter the serial number of the endpoint you want to read.

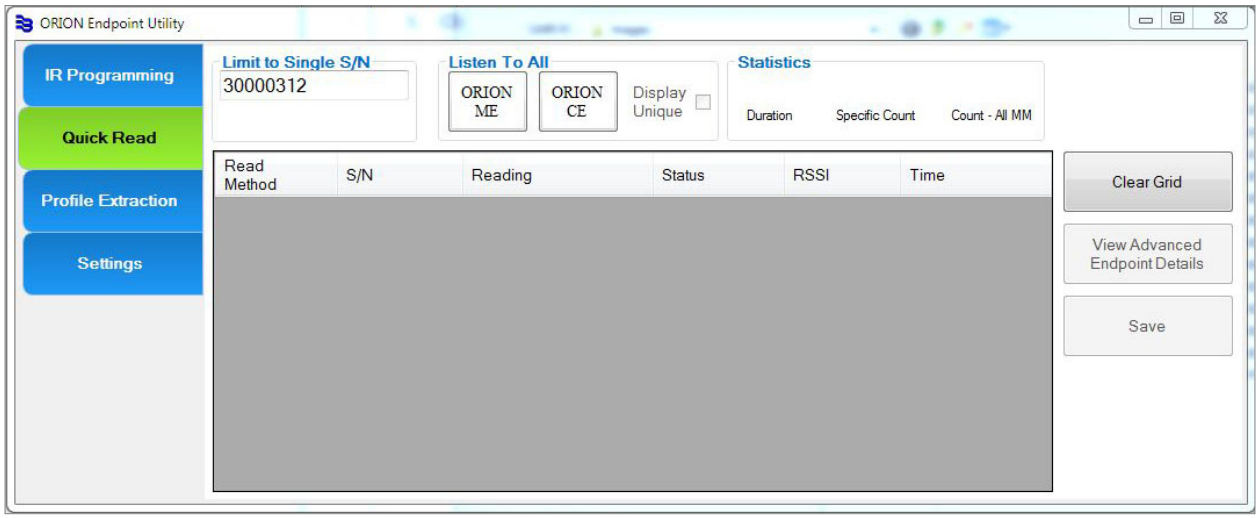


Figure 43: RF Quick Read screen

3. Click the button for the endpoint type. In the example above, an **ORION Migratable** endpoint serial number is entered so you would click the **ORION ME** button to start.

   *Result: Readings from the endpoint fill in the fields of the screen and the **View Advanced Endpoint Details** button becomes active for an ORION Migratable endpoint.*
4. Click the endpoint button again to stop the reading.

Advanced Endpoint Details (ORION ME/SE)

The **View Advanced Endpoint Details** button on the Quick Read screen becomes active when a single ORION Migratable or Fixed Network endpoint is being read via RF. Select this button to access the options described below.

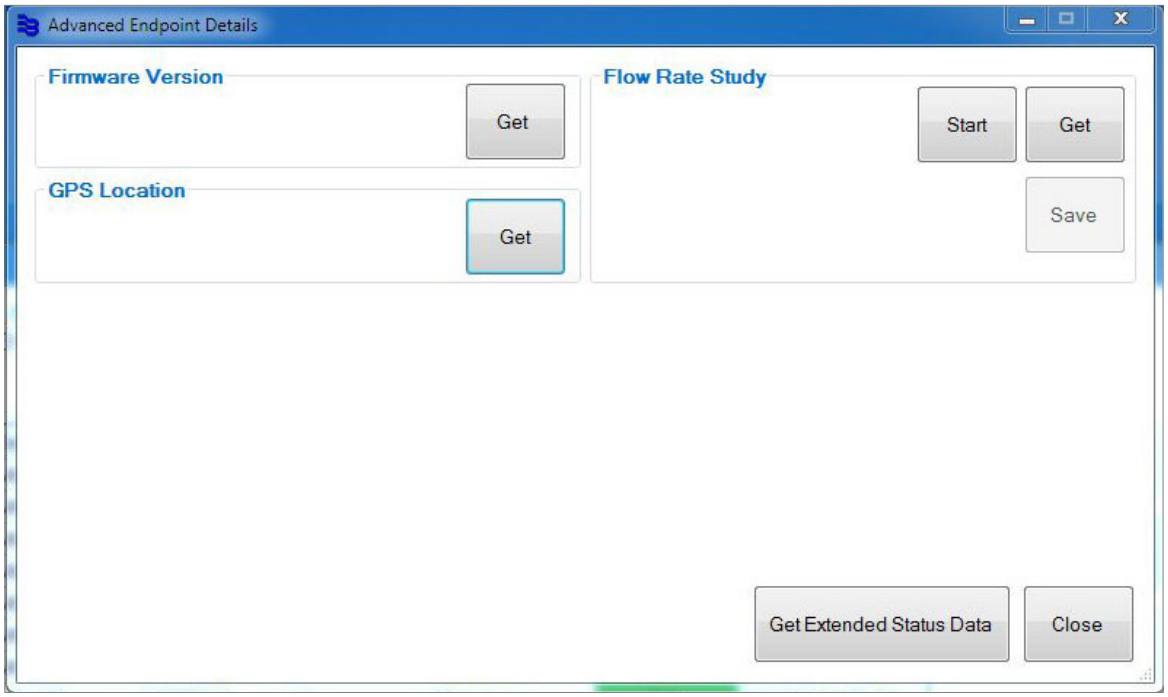


Figure 44: Advanced Endpoint Details screen

NOTE: The options described here are also available for ORION Migratable and Fixed Network endpoints via IR from the IR Programming screen.

Firmware Version	Click **Get** to display the endpoint firmware version in the field.
GPS Location	Click **Get** to display the latitude/longitude for the endpoint if the location has been programmed.
Flow Rate Study	The field displays the flow study results.
• **Start**	Click to start a 7-day flow rate study.
• **Get**	Click to get the results from the flow rate study.
• **Save**	Click to save the flow rate study results.
Get Extended Status Data	Click to receive and display the full endpoint status which includes meter size, model type and units, as well as any status alerts.
Close	Click to close the Advanced Endpoint Details screen.

PROFILE EXTRACTION

The Profile Extraction option on the main menu is used to extract, save and view historical interval profile data from ORION Migratable (or Fixed Network in mobile mode) and ORION Classic water and gas endpoints.

NOTE: Extracting historical interval profile data from an ORION Migratable endpoint can be performed via IR or RF. Extracting historical interval profile data from an ORION Classic endpoint can only be performed via IR.

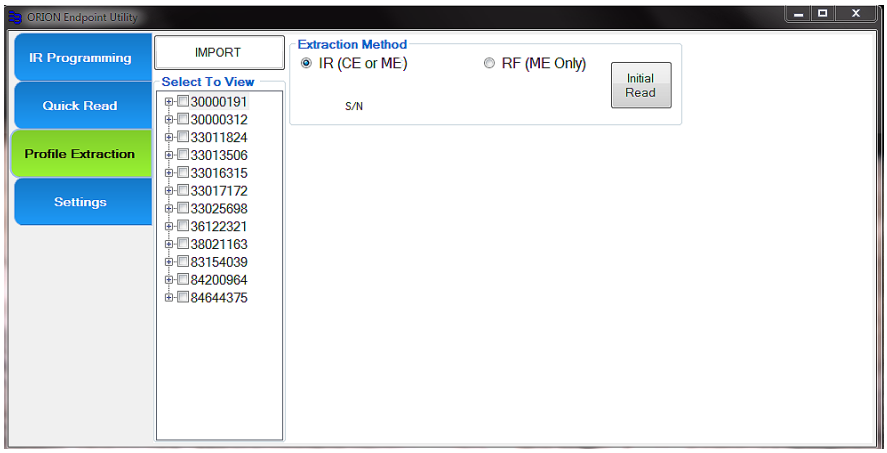


Figure 45: Profile Extraction screen

Profile Extraction Screen

IMPORT — The **IMPORT** button opens Windows File Explorer for access to saved profile data .csv files. Files can be added to the *C:\Program Data\Badger Meter\ORION* folder and will display in the *Select To View* list. For additional information, see *"Adding Profile Data Files" on page 44*.

Select To View — Profile data files that are saved to the *C:\Program Data\Badger Meter\ORION* folder will display in the *Select To View* list by endpoint number. If there are no profile data files to view, "No Data Available" displays in the field.

IR (CE or ME) — Select the IR radio button to extract profile data from an ORION CE or ME endpoint using the IR cable. An IR programming cable must be attached to the laptop. See *"IR Setup" on page 9*.

RF (ME Only) — Select the RF radio button to extract profile data from an ORION ME endpoint using radio frequency (RF). An ORION ME transceiver and antenna must be attached to the laptop. See *"RF Setup" on page 9* *for more information.*

Initial Read — Select the **Initial Read** button to read the endpoint and start the profile extraction process.

Interval Readings

An ORION ME water endpoint stores 90 days of hourly readings or 22 days of readings taken at 15 minute intervals. The chart below shows the number of readings collected for meters set at 60 minute (hourly) intervals and at 15 minute (quarter hourly) intervals:

Available Profile Data Extraction Intervals	Hourly Reads: 1 Read per Hour 24 Reads per Day	15 Minute Reads: 4 Reads per Hour 96 Reads per Day
7 days	168 reads (24 x 7)	672 (96 x 7)
14 days	336 reads (24 x 14)	1344 (96 x 14)
30 days	720 reads (24 x 30)	2160 (96 x 22.5)
60 days	1440 reads (24 x 60)	2160 (96 x 22.5)
All/90 days	2160 reads (24 x 90)	2160 reads (96 x 22.5)

An ORION CE endpoint is capable of storing more than 20,000 historical interval readings.

IR Profile Extraction

To access profile data from an ORION endpoint using IR, follow these steps.

1. Click to select the **IR (CE or ME)** radio button.

Figure 46: IR profile extraction

2. With the IR cable connected to the laptop, align the optical head of the IR cable with the endpoint IR LED port.
3. Click **Initial Read**. Hold the IR cable steady while the data is being read.
4. On the window that displays, select the appropriate meter size and unit of measure. For water endpoints, the Test Circle window will display. For gas endpoints, the Drive Circle window will display. An example of both windows is shown (*Figure 47*, *Figure 48*).

   Result: The endpoint serial number displays on the screen along with the encoder type, meter type and size.

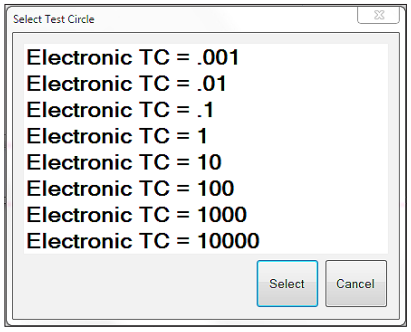


Figure 47: Water - Test Circle selection

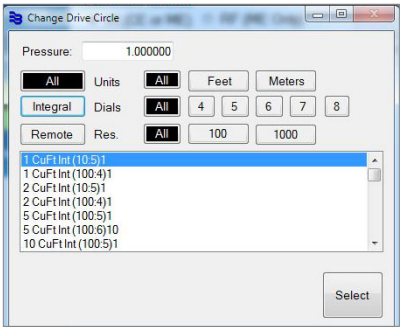


Figure 48: Gas - Drive Circle selection

5. Choose the number of days of historical interval data to extract using the drop-down menu.

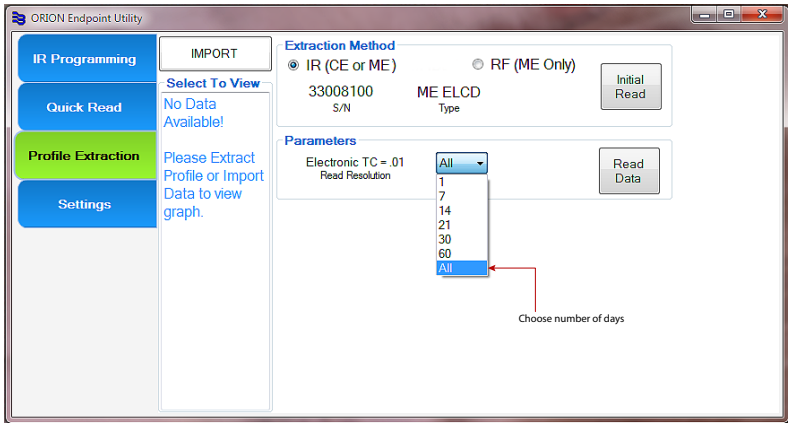


Figure 49: Choose number of days for profile extraction

6. Click the **Read Data** button. Hold the IR cable steady while the data is being read.

   Result: A progress bar displays while data is being extracted. The screen fills as shown below when the data has been retrieved.

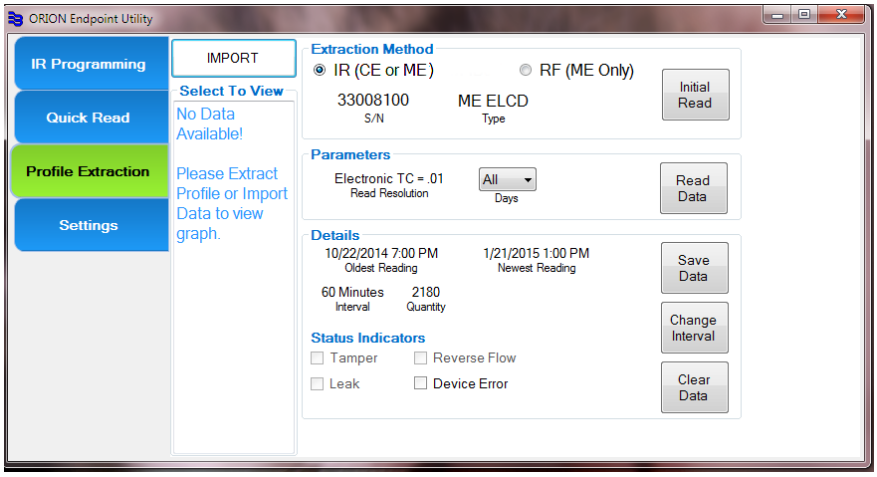


Figure 50: IR profile extraction complete

IR Profile Extraction Details

Oldest Reading	The date and time of the oldest reading in the data extracted.
Newest Reading	The date and time of the newest reading in the data extracted.
Interval	The reading interval at which the endpoint is set: 60 Minutes or 15 Minutes
Quantity	The number of interval reads retrieved.
Status Indicators	Potential exception issues such as a tamper or no usage. If no exceptions are noted, none of the boxes are checked.

7. Use the buttons to **Save Data** or **Clear Data**. You can also select **Change Interval** to change the time between historical interval meter readings.

   Save Data Select to save the profile data. A window displays with a message that confirms the save and the location of the file as shown in *Figure 51*. Click **OK** to close the window.

   NOTE: The endpoint number of the saved file now displays in the *Select To View* field on the screen.

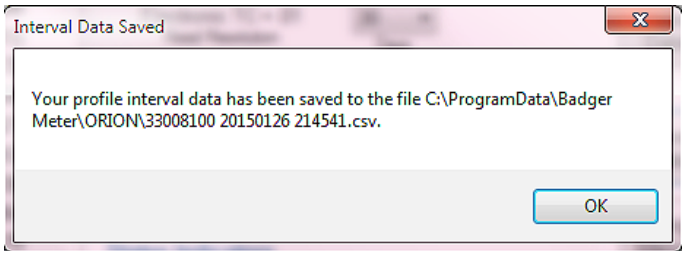

Interval Data Saved
Your profile interval data has been saved to the file C:\ProgramData\Badger Meter\ORION\33008100 20150126 214541.csv.
OK

Figure 51: Save file confirmation

   Change Interval Select to change the interval (60 minutes or 15 minutes) for meter readings. Changing the interval clears any stored interval data. A window opens, asking you to confirm the change.

   Clear Data Select to clear all historical interval profile data from the endpoint. A window opens, asking you to confirm the change.

8. IR data profile extraction is complete. To access profile data for another endpoint, repeat steps 2…7.

RF Profile Extraction (ORION ME/SE)

To access profile data for an ORION Migratable (or Fixed Network in mobile mode) endpoint using RF, follow these steps.

1. Click to select the **RF (ME only)** radio button.
2. Click in the *S/N* field and use the keyboard to enter the serial number of the endpoint.

   Result: As the radio connection is made, you will see two status messages: "Waiting For Mobile Message" and then "Waiting for Extended Status."

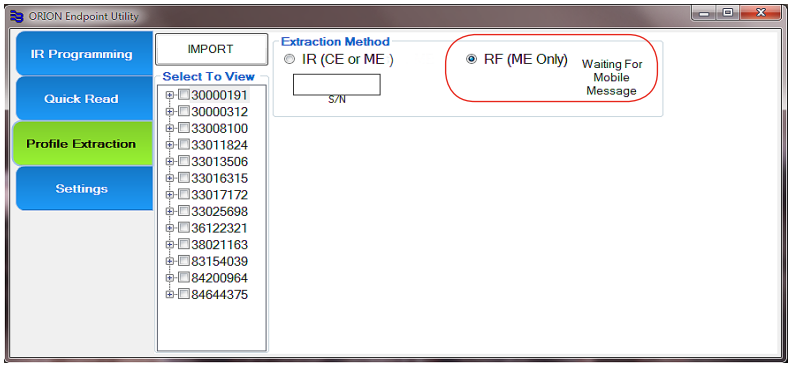


Figure 52: RF profile extraction

3. On the window that displays, select the appropriate meter size and unit of measure. For water endpoints, the Test Circle window will display. For gas endpoints, the Drive Circle selection window will display. An example of both windows is shown (*Figure 53*, *Figure 54*).

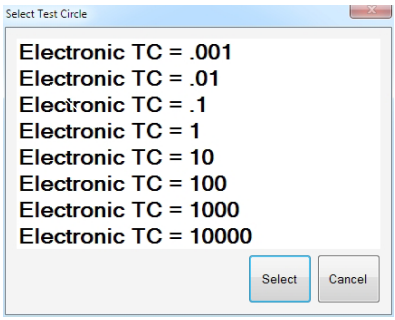


Figure 53: Water - Test Circle selection

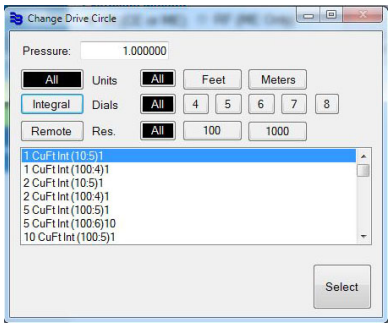


Figure 54: Gas - Drive Circle selection

4. Choose the number of days of historical interval data to extract using the drop-down menu.

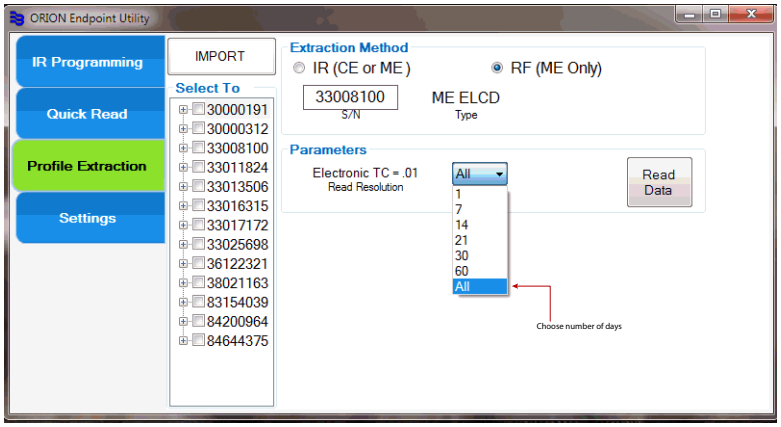


Figure 55: Choose number of days for profile extraction

5. Then click **Read Data**.

Result: Two status messages display: "Waiting for Mobile Configuration" and then "Reading Data." A bar displays to show progress. Profile data for the endpoint is extracted and the screen fills as shown below to confirm that the data has been retrieved.

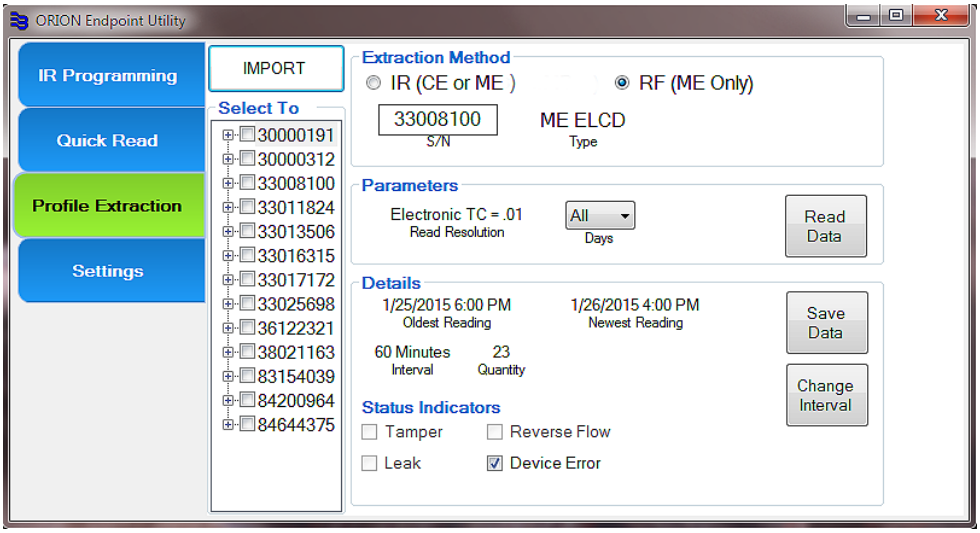


Figure 56: RF profile extraction complete

RF Profile Extraction Details

Oldest Reading — The date and time of the oldest reading in the data extracted.

Newest Reading — The date and time of the newest reading in the data extracted.

Interval — The reading interval at which the endpoint is set: 60 Minutes or 15 Minutes.

Quantity — Displays the number of interval reads retrieved.

Status Indicators — Displays potential exception issues such as a tamper or no usage. If no exceptions are noted, none of the boxes are checked.

6. Click the button to **Save Data**. You can also click **Change Interval** to change the time between historical interval meter readings.

Save Data — Click to save the profile data. A window displays with a message that confirms the save and the location of the file (*Figure 57*). Click **OK** to close the window.

NOTE: You must click **Save Data** to save the file and make it accessible in the *Select To View* list.

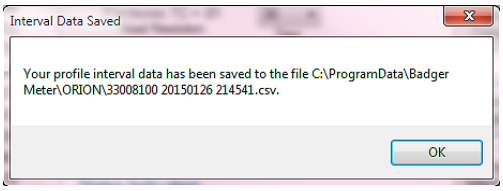

Interval Data Saved
Your profile interval data has been saved to the file C:\ProgramData\Badger Meter\ORION\33008100 20150126 214541.csv.
OK

Figure 57: Save file confirmation

Change Interval — Click to change the interval (60 minutes or 15 minutes) for meter readings. Changing the interval clears any stored interval data. A window opens, asking you to confirm the change.

7. The RF Profile Extraction is complete. To read another endpoint, repeat steps 2…6.

Viewing Profile Data

Saved profile data can be viewed in a bar graph format in the ORION Endpoint Utility. An example of a profile data graph is shown below.

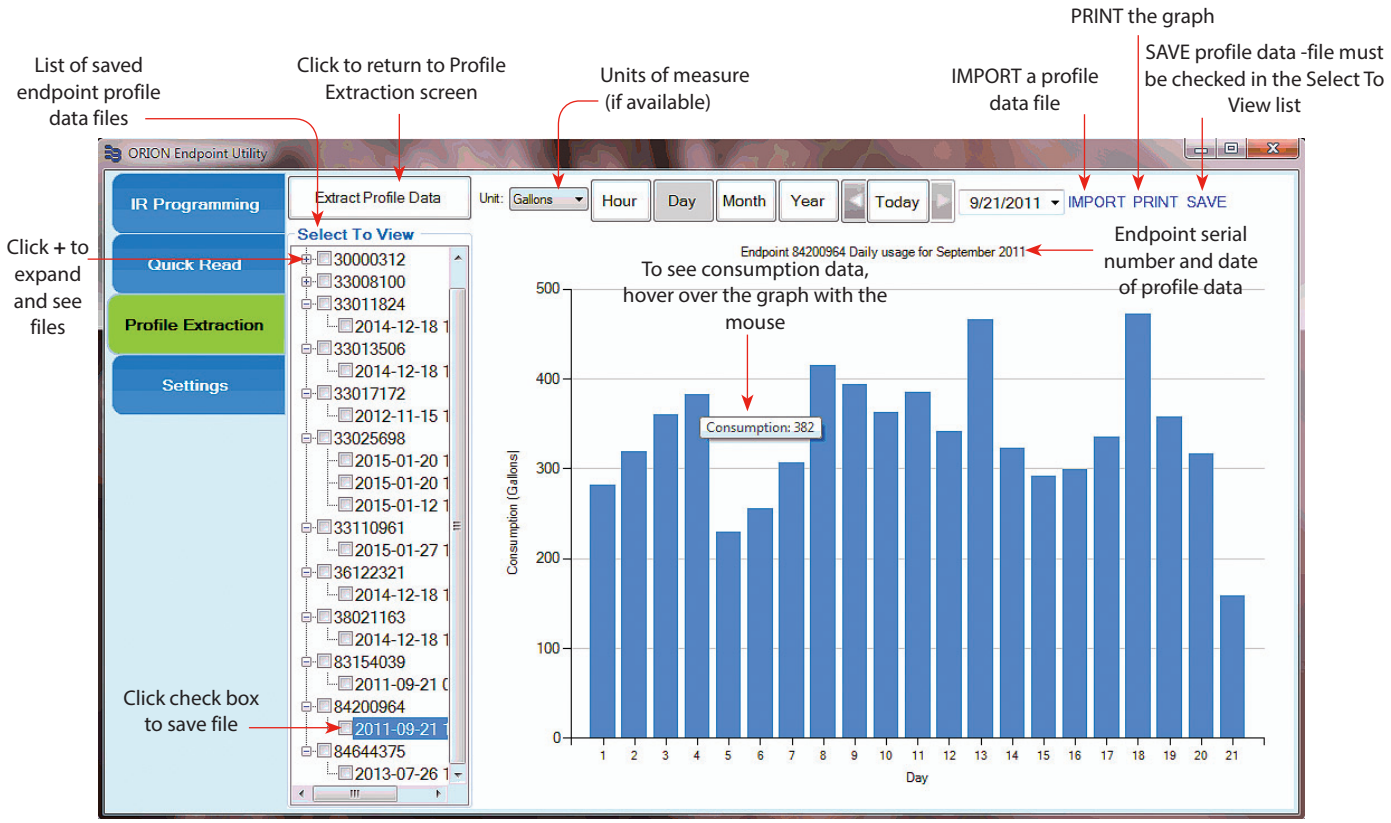


Figure 58: Profile data graph

Graph Details

Extract Profile Data — Click to return to the Profile Extraction screen.

Select To View — Endpoint numbers with saved profile data are displayed in ascending numerical order. Click **+** to display saved files for the endpoint. Then click a file to display a bar graph of the profile data.

Units (Y-axis) — When unit of measure is available, a drop-down menu will display. Select from the drop-down menu to change the Y-axis value.

Time Period (X-axis) — **Hour**: Displays a day of data, divided into hours.

Day: Displays a month of data, divided into days.

Month: Displays a year of data, divided into months.

Year: Displays a year of data.

<Today> — Click **Today** to see a graph of the profile data for the current day. Use the arrows to view a graph of the previous or next day.

Date Drop-Down — Click the drop-down arrow to display a calendar and select a date.

IMPORT, PRINT, SAVE — Use **IMPORT** to access and import a profile data file. Use **PRINT** to print the current graph. Use **SAVE** to save the profile data. The file in the *Select To View* list must have a check mark to save.

Procedure for Viewing a Graph

1. On the Profile Extraction screen, click the **+** next to the endpoint number in the *Select To View* list to see the profile data file(s).
2. Click a file to select it.

   Result: A graph of the file automatically opens to the right of the Select To View list.

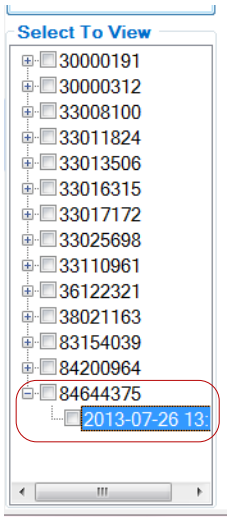


Figure 59: Select To View list with file selected

3. If available, select a unit of measure using the drop-down menu to change the Y-axis value.
4. Use the buttons at the top of the screen to change the time period for a different graph display. The X-axis will update accordingly.

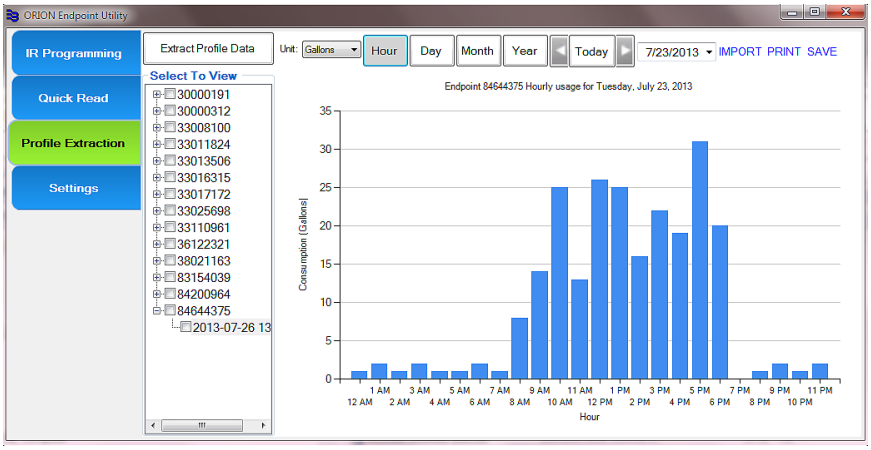


Figure 60: Profile data by hour

5. Click **PRINT** to print the graph.

   To **SAVE** the profile data, place a check mark in the box next to the file in the *Select To View* list (*Figure 61*). Then click the **SAVE** button.
6. Click **Extract Profile Data** to return to the Profile Extraction screen.

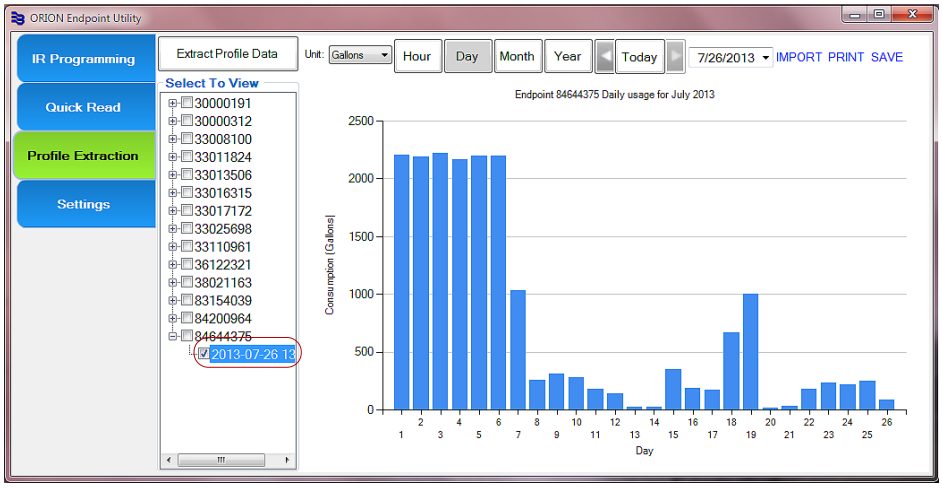


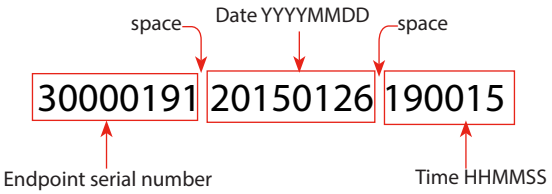
Figure 61: Select To View list with file checked

NOTE: A graph displays when there is data. If there is no data for the time period selected, a graph will not display. An empty graph displays when there is no consumption for the time period selected.

Adding Profile Data Files

You can add profile data files to the **ORION** folder on the computer at **C:\Program Data\Badger Meter** for viewing in the ORION Endpoint Utility. Use the **IMPORT** button on the Profile Extraction screen to import files, or copy and paste files directly into the **ORION** folder.

NOTE: Profile data files must be .csv files, the format created when files are extracted/saved using Badger Meter software. File names must have the same numerical format. An example of the format is shown here:



Once a file is saved, go to the **ORION Endpoint Utility**> **Profile Extraction** and select the file in the *Select To View* list to display the graph. See *"Viewing Profile Data" on page 41* for details.

Deleting Profile Data Files

1. On the computer, go to **C:\Program Data\Badger Meter\ORION** and open the folder with the saved profile data files.
2. Select a file (or multiple files).
3. Press the **Delete** key on the keyboard.

   Result: A confirmation window opens.
4. Click **Yes**.

   Result: The files are deleted and will be removed from the Select To View list the next time you access the ORION Endpoint Utility.

APPENDIX

GLOSSARY

ADE	The Absolute Digital Encoder is a position-based encoder that senses the position of each number wheel to determine the reading for touch and AMR/AMI systems. The ADE encoder displays as "ENC" on the software screens.
AMI	Advanced metering infrastructure (AMI).
AMR	An automated meter reading (AMR) system that uses radio frequency technology to transmit meter readings between an endpoint and a data collection device.
C700D	Endpoint type exclusively used for connectivity with Elster/AMCo C700 digital encoders.
ELCD	Field display representing either an HR-E LCD encoder or High Resolution E-Series Ultrasonic meter.
ENC	Used in the software to refer to a three-wire encoder, including the Absolute Digital Encoder.
endpoint	The term used to describe a transmitter which is an electronic device that produces radio waves.
HR-E	High resolution absolute encoder with eight-wheel mechanical display. The HR-E encoder displays as "HRE" on the software screens.
HR-E LCD	High resolution (HR) electronic encoder with digital display and no moving parts. The HR-E LCD encoder displays as "ELCD" on the software screens.
IR	Infrared light. Wireless transmission that requires a clear line of sight between the transmitter and receiver. An IR programming cable connected to a collection device (laptop or handheld computer) is used to read and program ORION endpoints.
lat/long	Abbreviation for latitude/longitude.
MM	Mobile message. An endpoint radio transmission heard by the laptop.
ORION CE	The ORION Classic (CE) endpoint is a one-way local automated meter reading (AMR) system which communicates with a mobile *receiver* designed to read ORION Classic water and gas endpoints. The receiver has Frequency Hopping Spread Spectrum (FHSS) technology to minimize interference and eliminate FCC licensing.
ORION ME and ORION SE	The ORION Migratable (ME) endpoint and ORION Fixed Network (SE) are two-way utility management solutions. ORION Migratable and Fixed Network (in mobile mode) endpoints communicate with a mobile *transceiver* designed to receive signals *from* and send signals *to* ORION Migratable and Fixed Network water and gas endpoints. The transceiver has Frequency Hopping Spread Spectrum (FHSS) technology to minimize interference and eliminate FCC licensing.
raw reading	The numerical value from the encoder without reading resolution applied.
reading data management software	Refers to Badger Meter reading data management software which acts as an interface between the Utility's billing software and the meter reading devices.
RF	Radio frequency.
RSSI	Received Signal Strength Indicator.
RTR	The Recordall Transmitter Register (RTR) is used in conjunction with Recordall disc, turbo, compound and fire series water meters to measure totalized flow through the meter and output a signal to Badger Meter meter reading products.
transceiver	A device that has the ability to both transmit and receive.

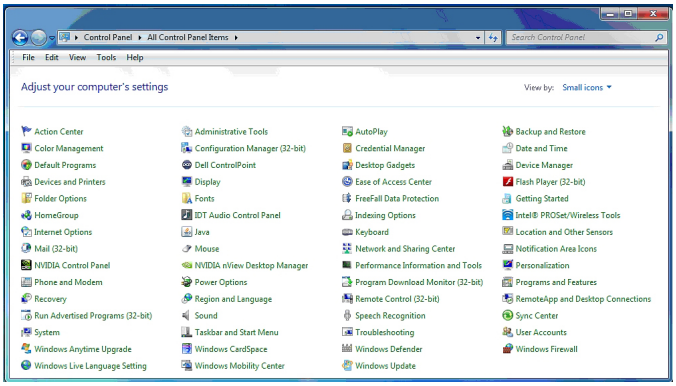
REMOVING PREVIOUS SOFTWARE

Remove older software versions prior to installing a new version. Follow the instructions for your operating system.

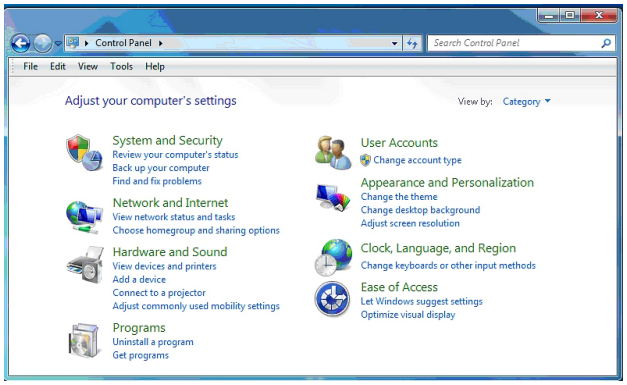
NOTE: If you are installing the ORION Endpoint Utility software for the first time (no previous versions installed), skip this section and go to *"Installing the Software" on page 49*.

Removing Software – Windows 7

1. Click the Start button. Then click Control Panel > **Programs and Features.** If Control Panel is in **Category** view, as shown, click **Programs** first, then click **Programs and Features**.



Control Panel

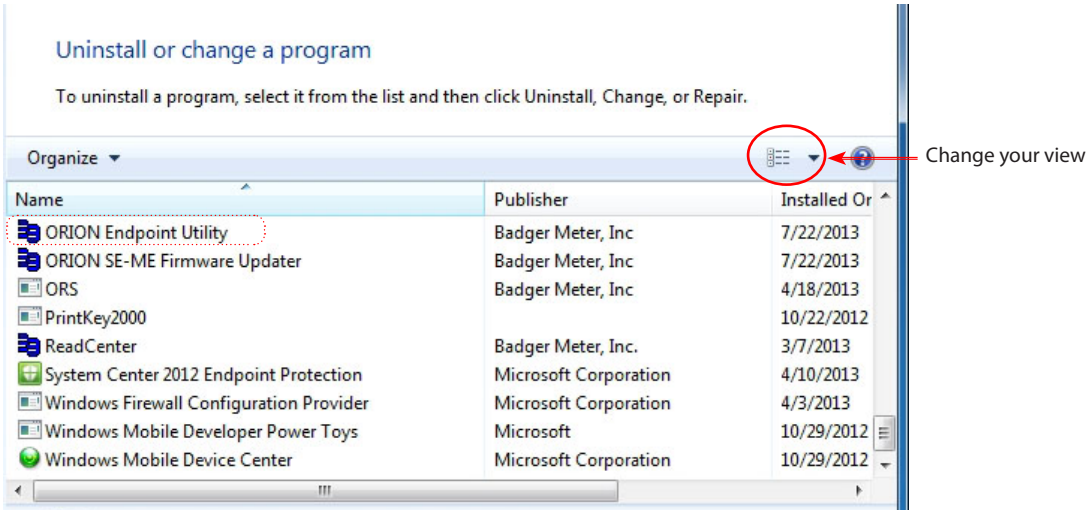


Category view

Result: The Programs and Features window opens.

2. Locate and select **ORION Endpoint Utility** in the Programs and Features window.

   To see the list of programs and features in alphabetic order, click the Change Your View icon and select **Details.** When the view changes, click the **Name** column to sort alphabetically.



Programs and Features detail view

3. Click **Uninstall**.

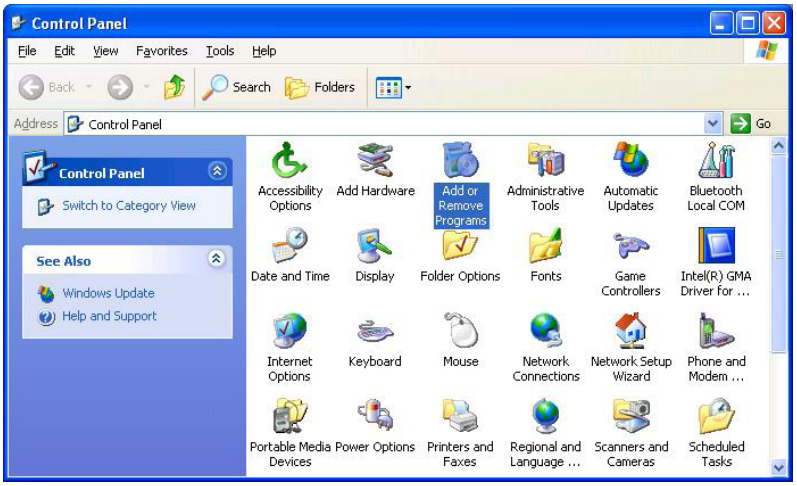
   Result: The selected program uninstalls and any desktop icon is removed.

4. Close the Programs and Features window.

5. Restart the computer to complete the uninstall process.

Removing Software – Windows XP

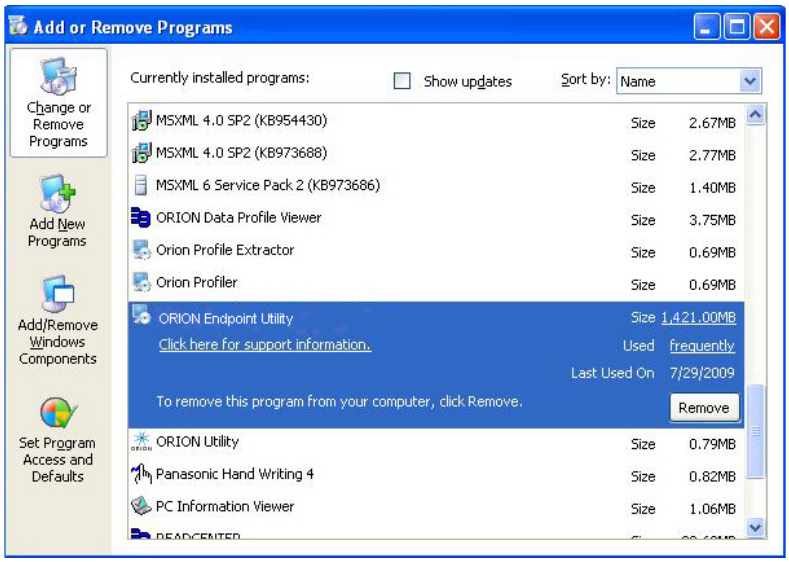
1. Click Start > Control Panel> **Add or Remove Programs.**



Control Panel

Result: The Add or Remove Programs window opens.

2. Locate and select **ORION Endpoint Utility** in the Add or Remove Programs window.


Add or Remove Programs
Change or Remove Programs
Add New Programs
Add/Remove Windows Components
Set Program Access and Defaults
Currently installed programs:
Show updates
Sort by: Name
MSXML 4.0 SP2 (KB954430) Size 2.67MB
MSXML 4.0 SP2 (KB973688) Size 2.77MB
MSXML 6 Service Pack 2 (KB973686) Size 1.40MB
ORION Data Profile Viewer Size 3.75MB
Orion Profile Extractor Size 0.69MB
Orion Profiler Size 0.69MB
ORION Endpoint Utility Size 1,421.00MB
Click here for support information. Used frequently
Last Used On 7/29/2009
To remove this program from your computer, click Remove.
Remove
ORION Utility Size 0.79MB
Panasonic Hand Writing 4 Size 0.82MB
PC Information Viewer Size 1.06MB

Add or Remove Programs window

3. Click **Remove**.
   Result: The Uninstall window opens.
4. Follow the prompts and click **Finish** at the end.
   Result: The selected program uninstalls and any desktop icon is removed.
5. Close the Add or Remove Programs window.
6. Restart the computer to complete the uninstall process.

INSTALLING THE SOFTWARE

The ORION Endpoint Utility software disc is provided by Badger Meter.

The basic software installation process is the same for Windows 7 and Windows XP. Windows 7 users must perform the additional steps noted on *page 52*. Screen appearance depends on user personalization and operating system.

Remove older software prior to installing a new version. See *"Removing Previous Software" on page 47*.

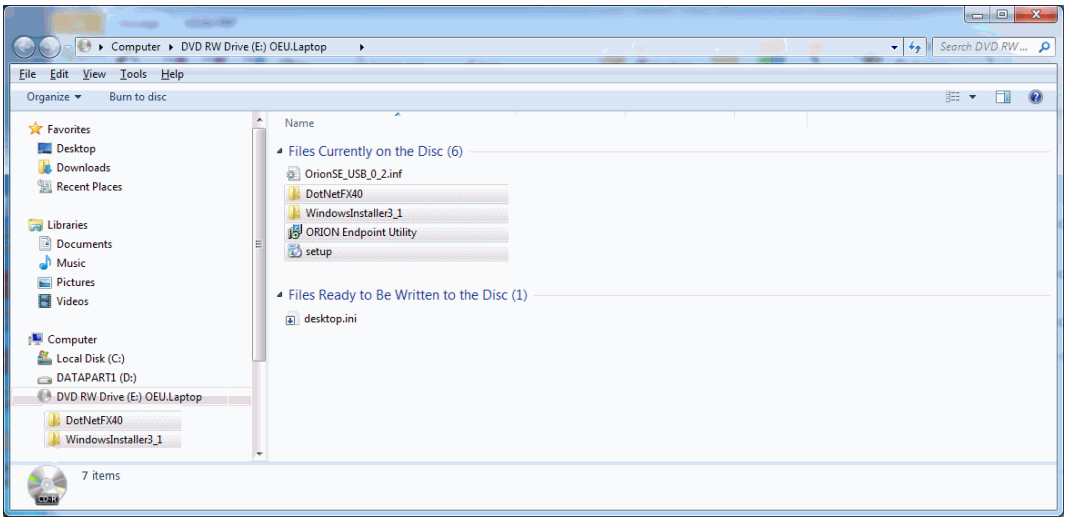
NOTE: In addition to the software installation instructions on the next four pages, instructions are included for *"Installing the ME Driver" on page 53* and *"Configuring the USB Settings (Windows 7 and Windows XP)" on page 61*. If you previously installed the ORION Endpoint Utility software or have the ORION Mobile Reading System (ORS) software installed, you can skip those sections.

1. Load the ORION Endpoint Utility disc into the computer DVD drive.

   NOTE: A DVD drive is required to install the ORION Endpoint Utility software.

2. The disc folder may open automatically. If not, open Windows Explorer and browse to the disc drive location.

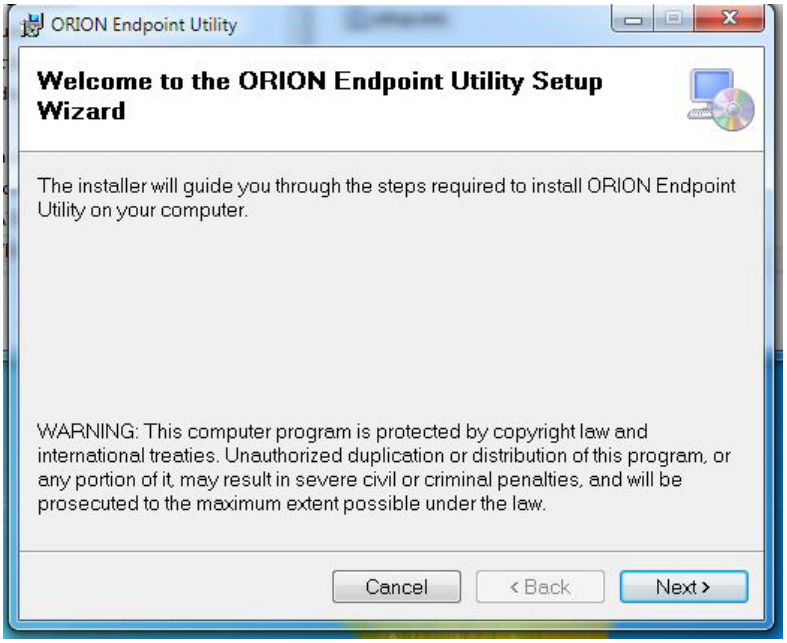
   Result: The ORION Endpoint Utility files are displayed.



3. Double-click the **setup.exe** file.

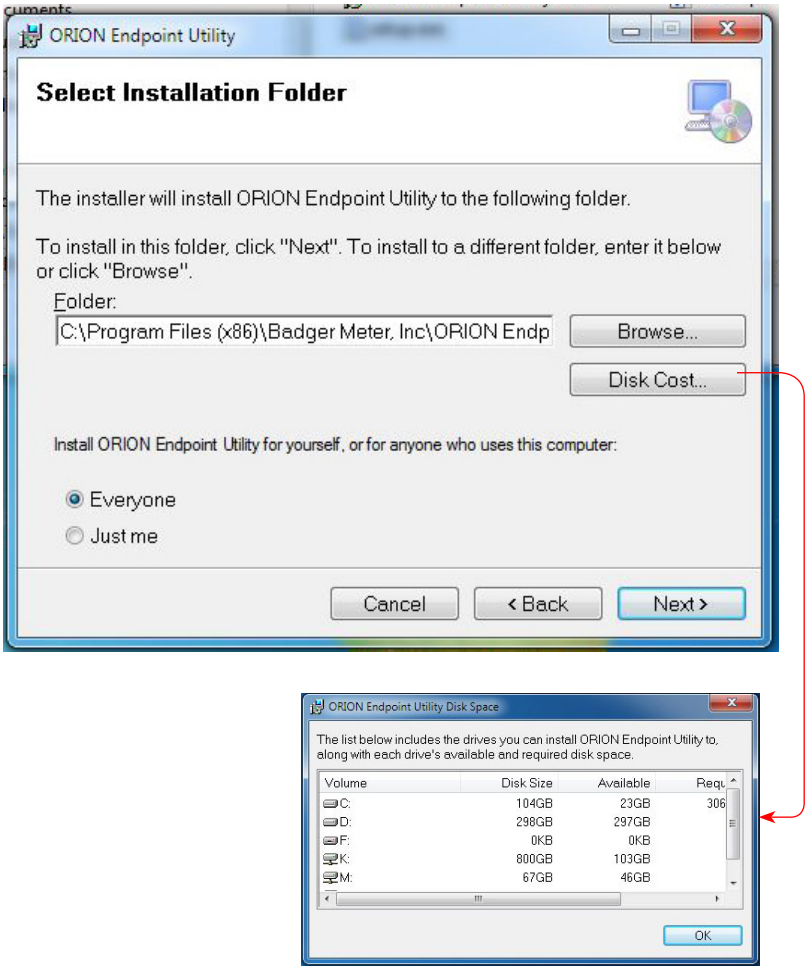
   Result: The ORION Endpoint Utility Setup Wizard opens.

4. On the Welcome window, click **Next**.


ORION Endpoint Utility
Welcome to the ORION Endpoint Utility Setup Wizard
The installer will guide you through the steps required to install ORION Endpoint Utility on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >

5. On the Select Installation Folder window, do the following.

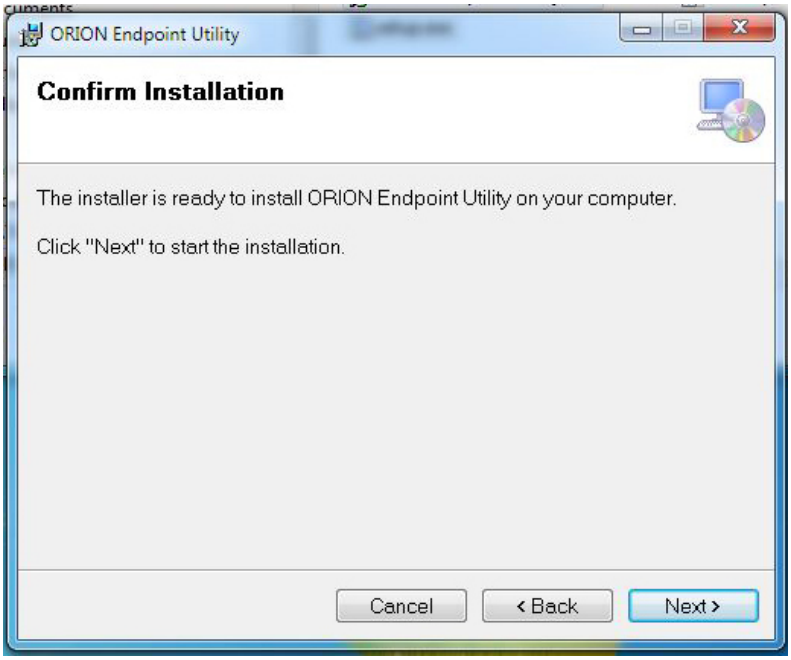
- Verify where the software will be located. The Program Files folder is recommended. Click **Browse** to change the location.
- Verify that the radio button next to **Everyone** is checked if more than one person will be using the software.
- (Optional) Click **Disc Cost...** to view available drives and space on the computer before you install. A window opens as shown in the example. Click **OK** to close the window.
- Click **Next**.



6. On the Confirm Installation window, click **Next**.

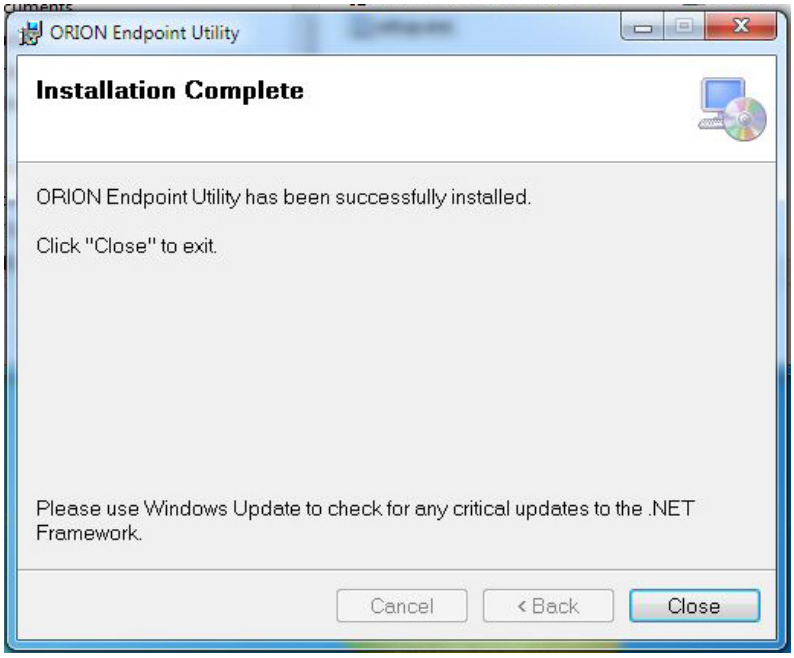
   Result: The software installs. This takes a few seconds.

   NOTE: A window may display asking for permission to allow changes to the computer. If the window displays, click **Yes**.


ORION Endpoint Utility
Confirm Installation
The installer is ready to install ORION Endpoint Utility on your computer.
Click "Next" to start the installation.
Cancel
< Back
Next >

7. On the Installation Complete window, click **Close** to close the installation wizard.

   NOTE: MICROSOFT .NET 3.5 is required to run the software as designed. See *"Minimum System Requirements" on page 5* and *"Windows Updates" on page 8* for more information.

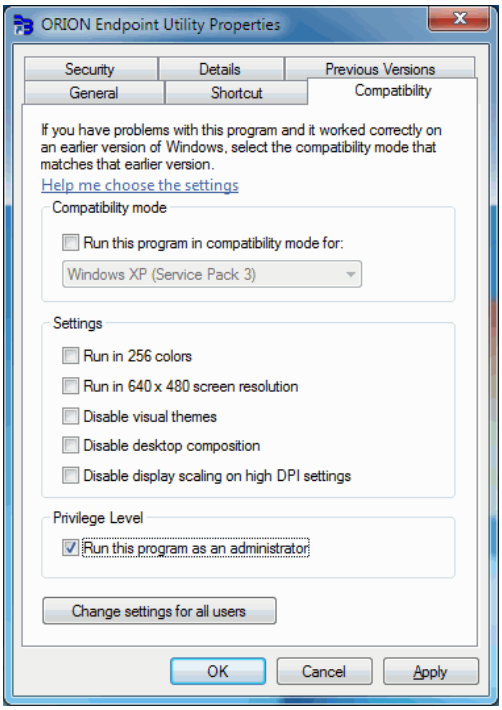

ORION Endpoint Utility
Installation Complete
ORION Endpoint Utility has been successfully installed.
Click "Close" to exit.
Please use Windows Update to check for any critical updates to the .NET Framework.
Cancel
< Back
Close

The ORION Endpoint Utility icon displays on the desktop.

Additional Steps - Windows 7 Users Only

For Windows 7 users, complete these steps to finish the software installation process.

1. Right-click on the ORION Endpoint Utility desktop icon and select **Properties**.
2. In the Properties window, select the **Compatibility** tab and check the box next to "Run this program as an administrator" as shown.
3. Click **OK**.


ORION Endpoint Utility Properties
Security
Details
Previous Versions
General
Shortcut
Compatibility
If you have problems with this program and it worked correctly on an earlier version of Windows, select the compatibility mode that matches that earlier version.
Help me choose the settings
Compatibility mode
Run this program in compatibility mode for:
Windows XP (Service Pack 3)
Settings
Run in 256 colors
Run in 640 x 480 screen resolution
Disable visual themes
Disable desktop composition
Disable display scaling on high DPI settings
Privilege Level
Run this program as an administrator
Change settings for all users
OK
Cancel
Apply

Compatibility tab

Software installation is complete.

NOTE: Before the software is ready to use, make sure the ME Driver is installed and the USB Settings are configured if they have not already been. Instructions start on the next page.

Installing the ME Driver

The ME Driver is required for communication between the ORION Endpoint Utility software and an ORION mobile transceiver. Follow the driver installation instructions for your operating system if you need to install the driver.

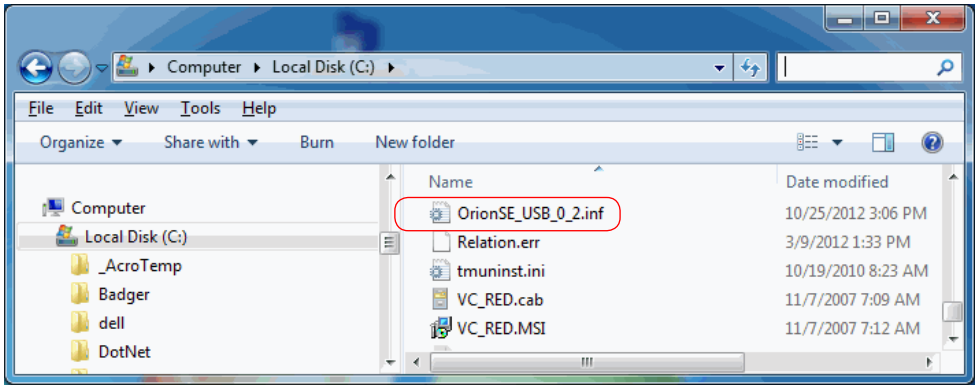
The ME Driver only needs to be installed once. If you previously installed the ORION Endpoint Utility or other ORION software such as the ORION Mobile Reading System, you already have the ME Driver and you may skip this section.

NOTE: You will receive an error message when you connect the ORION mobile transceiver if you *do not* have the ME Driver.

Installing the ME Driver with Windows 7

1. From the ORION Endpoint Utility software disc, copy the "OrionSE_USB_0_2.inf" file.
2. Click the **Windows Start** button. Then click **Computer** and paste the OrionSE_USB_0_2.inf file on the C:\ drive of the laptop.

   Result: The file should appear in the C:\ drive as shown here.

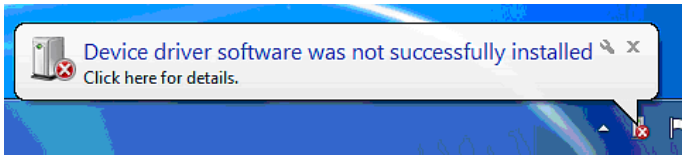


OrionSE_USB_0_2.inf file on the C:\ Drive

3. Connect the mobile transceiver to a power supply and to a USB port on the laptop.

   When it is connected to the laptop, turn the transceiver power on.

   Result: An error message is triggered and displays briefly in the lower task bar.



Device Driver error message

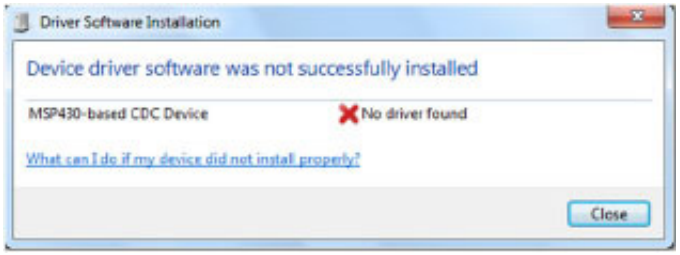
NOTE: If the error message does not display automatically, disconnect the transceiver and reconnect it. Make sure the transceiver is connected to a power supply and is switched on *after* you connect it to the USB port. The power light should be on, indicating the transceiver is on.

4. Click the error message.

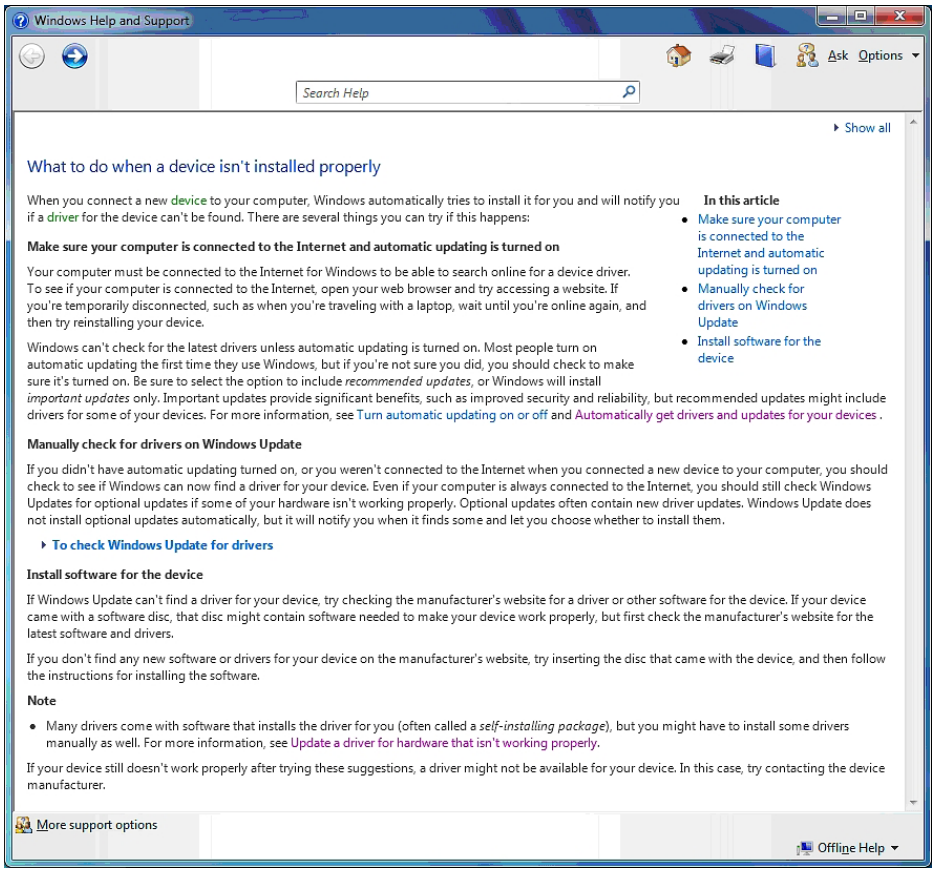
   Result: The Driver Software Installation window opens as shown.

5. Click the link: "What can I do if my device did not install properly?"

   Result: Windows Help opens with instructions for installing the driver software as shown on the next page.


Driver Software Installation
Device driver software was not successfully installed
MSP430-based CDC Device
No driver found
What can I do if my device did not install properly?
Close

Driver Software Installation window

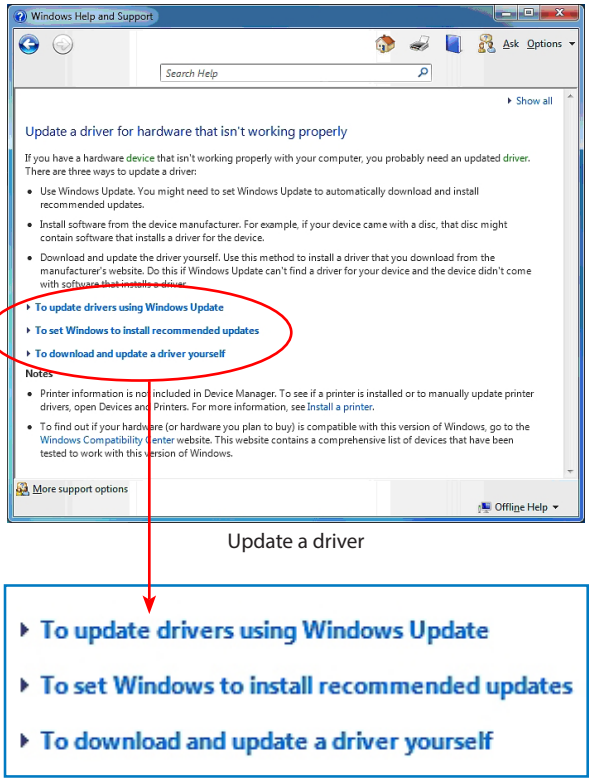

Windows Help and Support
Ask Options
Search Help
Show all
What to do when a device isn't installed properly
When you connect a new device to your computer, Windows automatically tries to install it for you and will notify you if a driver for the device can't be found. There are several things you can try if this happens:
In this article
Make sure your computer is connected to the Internet and automatic updating is turned on
Manually check for drivers on Windows Update
Install software for the device
Make sure your computer is connected to the Internet and automatic updating is turned on
Your computer must be connected to the Internet for Windows to be able to search online for a device driver. To see if your computer is connected to the Internet, open your web browser and try accessing a website. If you're temporarily disconnected, such as when you're traveling with a laptop, wait until you're online again, and then try reinstalling your device.
Windows can't check for the latest drivers unless automatic updating is turned on. Most people turn on automatic updating the first time they use Windows, but if you're not sure you did, you should check to make sure it's turned on. Be sure to select the option to include recommended updates, or Windows will install important updates only. Important updates provide significant benefits, such as improved security and reliability, but recommended updates might include drivers for some of your devices. For more information, see Turn automatic updating on or off and Automatically get drivers and updates for your devices .
Manually check for drivers on Windows Update
If you didn't have automatic updating turned on, or you weren't connected to the Internet when you connected a new device to your computer, you should check to see if Windows can now find a driver for your device. Even if your computer is always connected to the Internet, you should still check Windows Updates for optional updates if some of your hardware isn't working properly. Optional updates often contain new driver updates. Windows Update does not install optional updates automatically, but it will notify you when it finds some and let you choose whether to install them.
To check Windows Update for drivers
Install software for the device
If Windows Update can't find a driver for your device, try checking the manufacturer's website for a driver or other software for the device. If your device came with a software disc, that disc might contain software needed to make your device work properly, but first check the manufacturer's website for the latest software and drivers.
If you don't find any new software or drivers for your device on the manufacturer's website, try inserting the disc that came with the device, and then follow the instructions for installing the software.
Note
Many drivers come with software that installs the driver for you (often called a self-installing package), but you might have to install some drivers manually as well. For more information, see Update a driver for hardware that isn't working properly.
If your device still doesn't work properly after trying these suggestions, a driver might not be available for your device. In this case, try contacting the device manufacturer.
More support options
Offline Help

Windows Help

6. Scroll down in the Help window and click the link: "Update a driver for hardware that isn't working properly" at the bottom of the window in the **Note** section as shown.

7. In the window that displays, click the link: "To download and update a driver yourself."

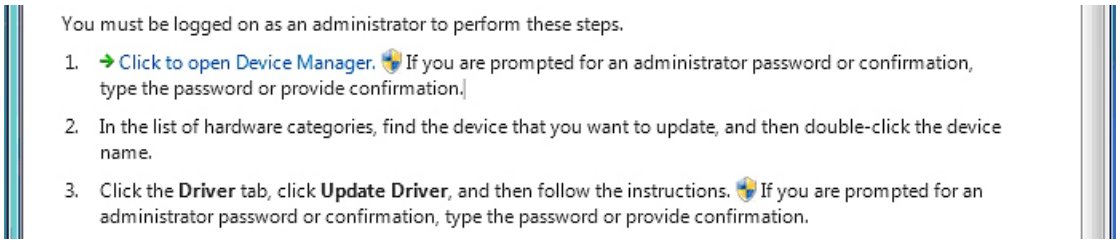
   NOTE: An enlarged image of the Help section is shown.


Windows Help and Support
Ask Options
Search Help
Show all
Update a driver for hardware that isn't working properly
If you have a hardware device that isn't working properly with your computer, you probably need an updated driver. There are three ways to update a driver:
Use Windows Update. You might need to set Windows Update to automatically download and install recommended updates.
Install software from the device manufacturer. For example, if your device came with a disc, that disc might contain software that installs a driver for the device.
Download and update the driver yourself. Use this method to install a driver that you download from the manufacturer's website. Do this if Windows Update can't find a driver for your device and the device didn't come with software that installs a driver.
To update drivers using Windows Update
To set Windows to install recommended updates
To download and update a driver yourself
Notes
Printer information is not included in Device Manager. To see if a printer is installed or to manually update printer drivers, open Devices and Printers. For more information, see Install a printer.
To find out if your hardware (or hardware you plan to buy) is compatible with this version of Windows, go to the Windows Compatibility Center website. This website contains a comprehensive list of devices that have been tested to work with this version of Windows.
More support options
Offline Help

Update a driver

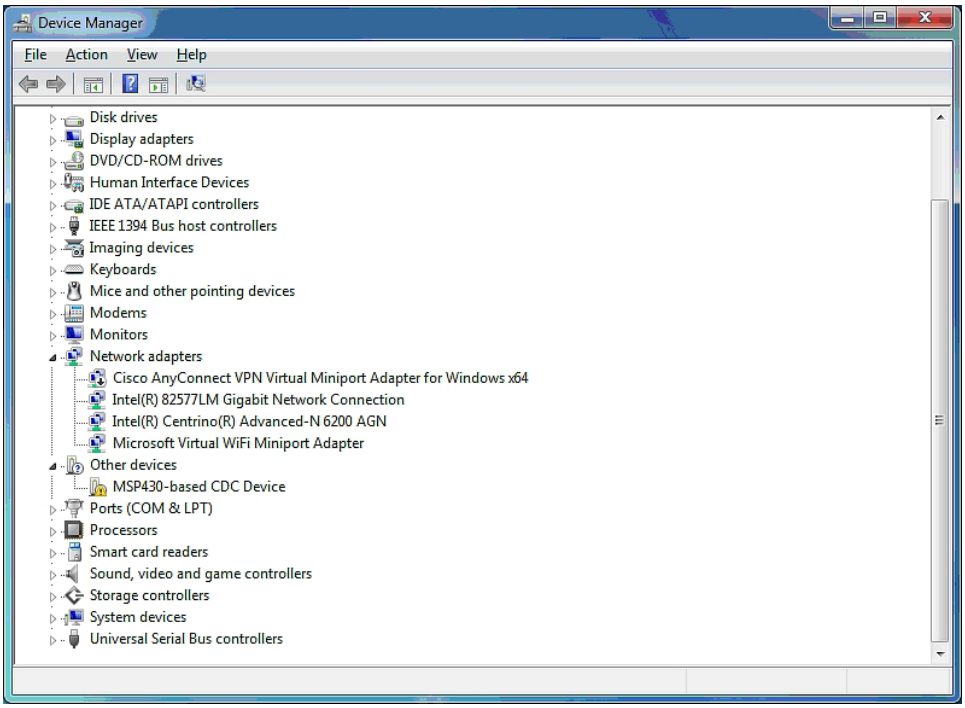
To update drivers using Windows Update
To set Windows to install recommended updates
To download and update a driver yourself

8. Click the link: "Open Device Manager." A portion of the Help screen with the link is shown.


You must be logged on as an administrator to perform these steps.
1. Click to open Device Manager. If you are prompted for an administrator password or confirmation, type the password or provide confirmation.
2. In the list of hardware categories, find the device that you want to update, and then double-click the device name.
3. Click the Driver tab, click Update Driver, and then follow the instructions. If you are prompted for an administrator password or confirmation, type the password or provide confirmation.

Windows Driver Help

Result: Device Manager opens.



Device Manager

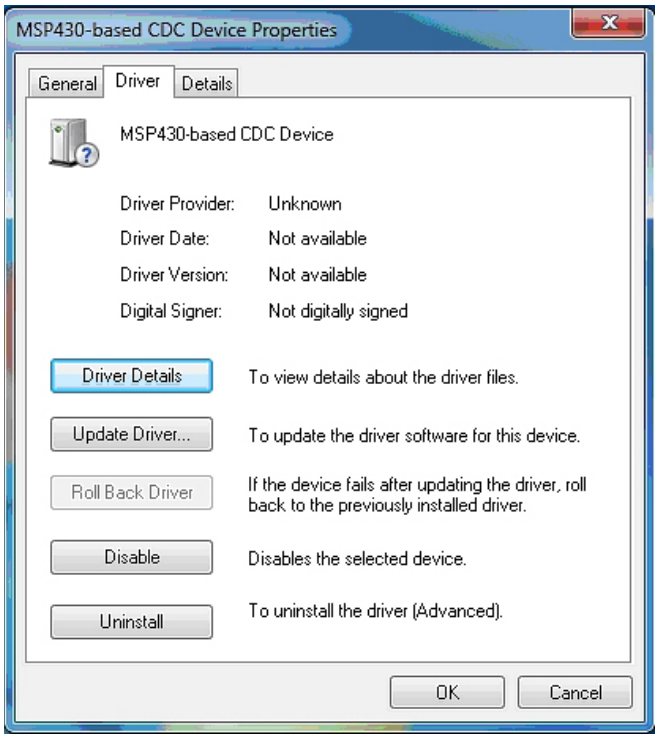
9. Locate and double-click the **MSP430 based CDC Device**.
Result: The Device Properties window opens.

10. Click to select the **Driver** tab.

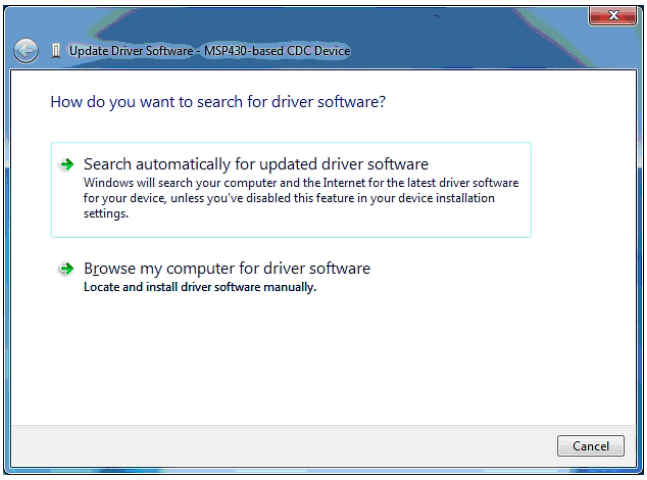
    On the Driver tab, click the **Update Driver** button.

    Result: The Search window opens.

11. Select "Browse my computer for driver software."



Device Properties

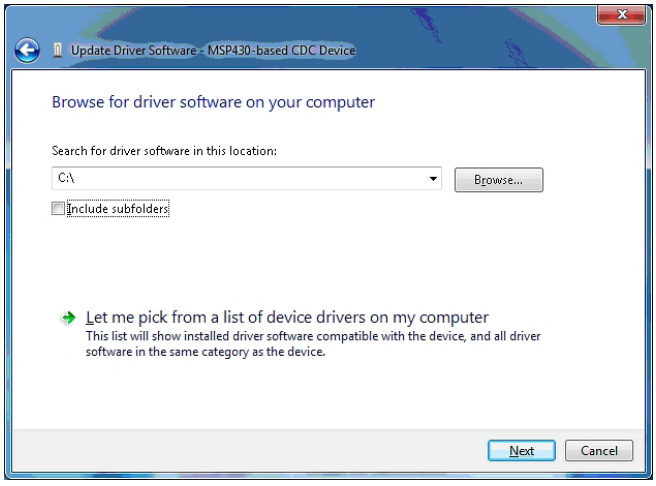

Update Driver Software - MSP430-based CDC Device
How do you want to search for driver software?
Search automatically for updated driver software
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.
Browse my computer for driver software
Locate and install driver software manually.
Cancel

Search

12. In the window that opens, type "C:\" in the field or browse to select the C:\ drive.

    NOTE: It is not necessary to check the box "Include subfolders."

13. Click **Next**.


Update Driver Software - MSP430-based CDC Device
Browse for driver software on your computer
Search for driver software in this location:
C:\
Browse...
Include subfolders
Let me pick from a list of device drivers on my computer
This list will show installed driver software compatible with the device, and all driver software in the same category as the device.
Next
Cancel

Search C:\ Drive

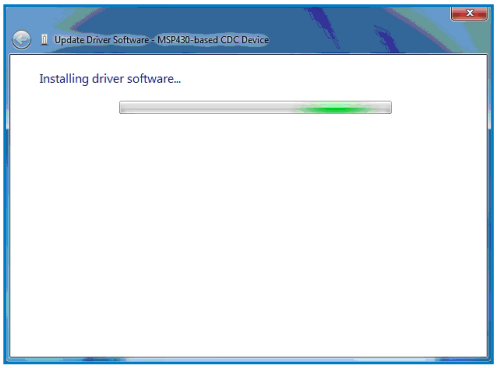
14. A Windows Security window opens as shown.

    Click the link: "Install this driver software anyway."

    Result: The ME driver installs. A progress bar displays to show the installation progress.

Windows Security
Windows can't verify the publisher of this driver software
Don't install this driver software
You should check your manufacturer's website for updated driver software for your device.
Install this driver software anyway
Only install driver software obtained from your manufacturer's website or disc. Unsigned software from other sources may harm your computer or steal information.
See details

Windows Security

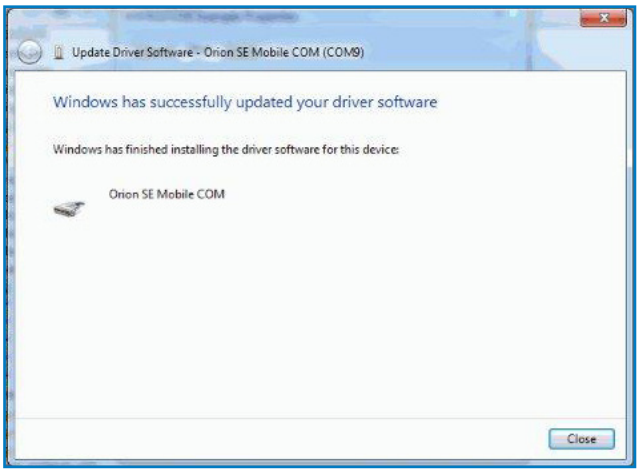


Installation progress

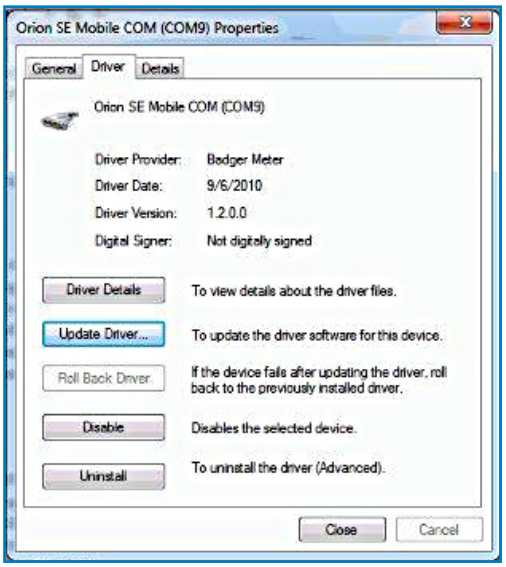
15. When the ME driver software update is complete, a window opens.

    NOTE: The communication (COM) port number for the driver is now displayed at the top of the final window and the Device Properties window. In the example shown, the ME driver is **COM9**. This COM number is important to remember for setting up and using the software.

    Click **Close** to close all remaining open windows.


Update Driver Software - Orion SE Mobile COM (COM9)
Windows has successfully updated your driver software
Windows has finished installing the driver software for this device:
Orion SE Mobile COM
Close

ME Driver software updated



Device Properties with COM

Installing the ME Driver for Windows XP

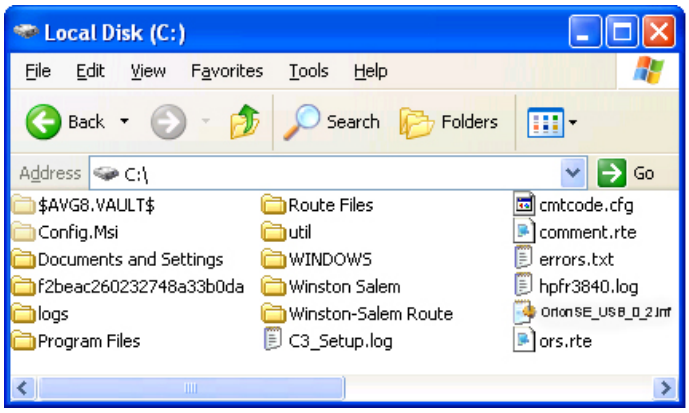
NOTE: This driver only needs to be installed once. If you already have the ME driver installed, skip this section.

1. From the software disc, copy the "OrionSE_USB_0_2.inf" file.
2. Click the Windows Start button. Then click **My Computer** and paste the OrionSE_USB_0_2.inf file on the C:\ drive of the laptop.

   Result: The file appears in the C:\ drive as shown.
3. Connect the mobile transceiver to a power supply and to a USB port on the laptop.

   When it is connected to the laptop, turn the mobile transceiver power on.

   Result: A small window opens at the bottom of the computer screen alerting you to new hardware.



Orion SE_USB_0_2.inf on the C:\ Drive

NOTE: If the new hardware alert does not display automatically, disconnect the mobile transceiver and reconnect it. Make sure the transceiver is connected to a power supply and is switched on *after* you connect it to the USB port. The power light should be on, indicating the transceiver is on.

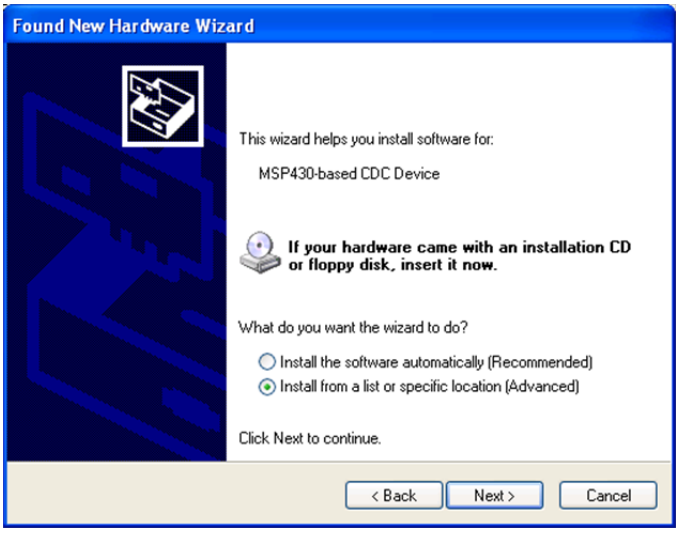
4. The New Hardware Wizard should open automatically. If it does not, click the small new hardware alert window described in Step 3.
5. Select the radio button next to "**No, not this time**" and click **Next**.

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

New Hardware Wizard

6. Select the radio button next to "Install from a list or specific location (Advanced)."

   Click **Next**.


Found New Hardware Wizard
This wizard helps you install software for:
MSP430-based CDC Device
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

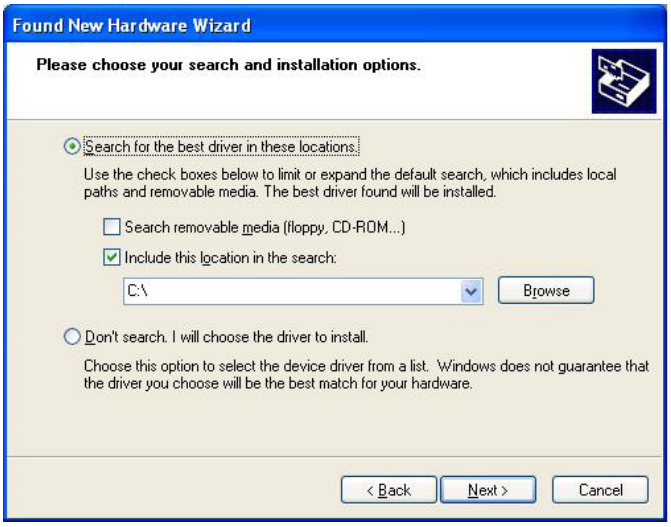
Install from a list

7. Select the radio button next to "Search for the best driver in these locations."

   Then check the box next to "Include this location in the search:" and type "C:\" in the field below.

   Click **Next**.

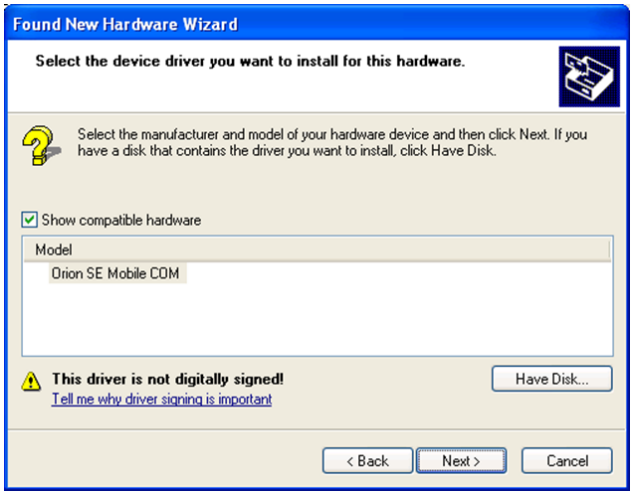
   Result: The Wizard searches for the driver on the C:\ drive and displays it in the next window.


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
C:\
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

Search and installation options

8. Click to select the **Orion SE Mobile COM** driver and click **Next**.

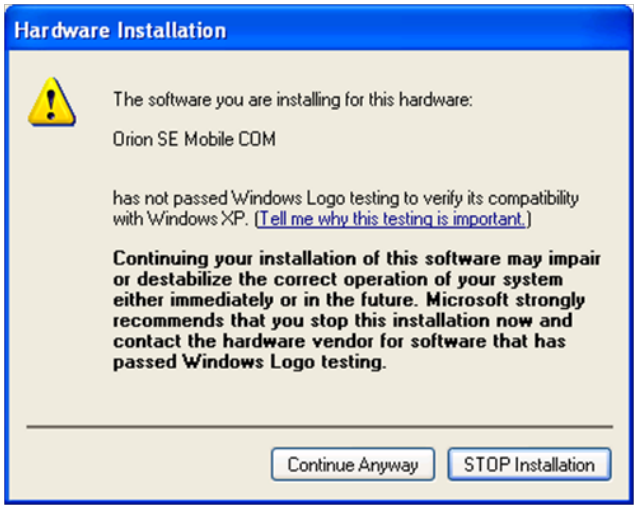
   Result: The driver software installation begins. A window opens to show the progress.


Found New Hardware Wizard
Select the device driver you want to install for this hardware.
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.
Show compatible hardware
Model
Orion SE Mobile COM
This driver is not digitally signed!
Tell me why driver signing is important
Have Disk...
< Back
Next >
Cancel

Select the driver

9. A window opens with a message that the software "has not passed Windows Logo testing..." Click **Continue Anyway**.

   Result: The Orion SE Mobile COM driver software continues to install.

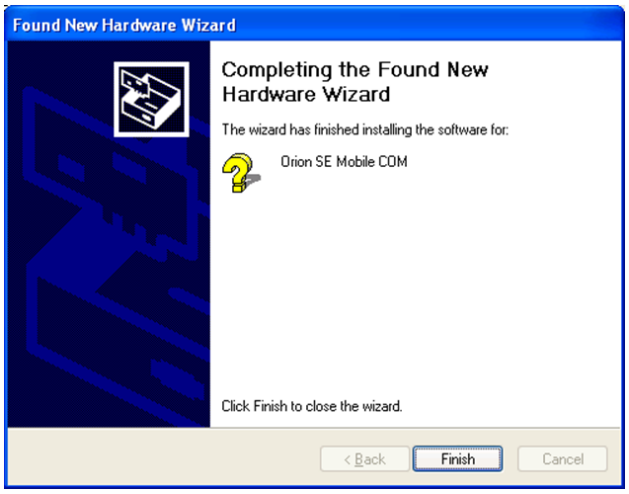

Hardware Installation
The software you are installing for this hardware:
Orion SE Mobile COM
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

Continue installation

10. The Wizard confirms the driver installation is complete.

    Click **Finish** to close the Wizard. Remove the software disc from the computer.

    Result: Another small window opens at the bottom of the computer screen alerting you to new hardware. It closes automatically.

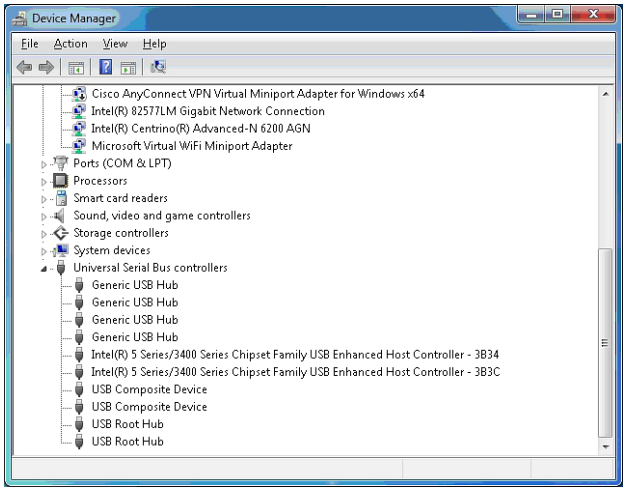

Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
Orion SE Mobile COM
Click Finish to close the wizard.
< Back
Finish
Cancel

Installation complete

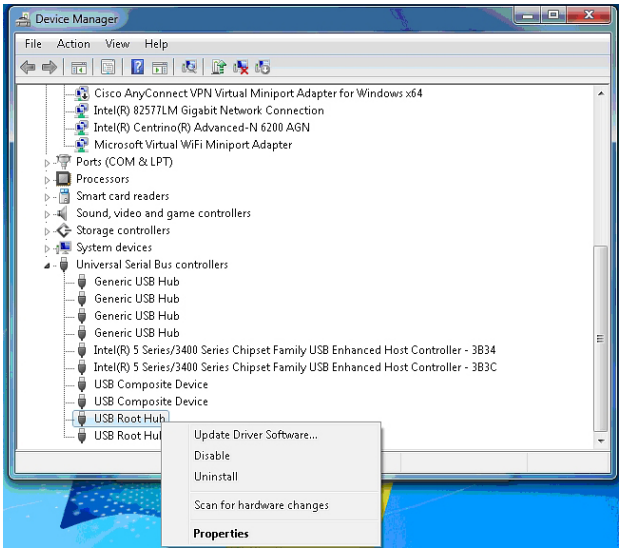
Configuring the USB Settings (Windows 7 and Windows XP)

NOTE: The USB settings only need to be configured once. If you have already configured the USB settings,skip this section.

1. Click the Windows Start button. Then right-click **Computer/My Computer** and select **Properties.**
2. Click **Device Manager**.
   Result: Device Manager opens.
3. Scroll down in the Device Manager window and locate the **Universal Serial Bus (USB) controllers**.
4. Click the small arrow (▶) or plus sign (+) to the left of the **Universal Serial Bus (USB) controllers** folder to display the files.
5. For each USB Root Hub, click to select the device, then right-click and choose **Properties.**


Device Manager
File Action View Help
Cisco AnyConnect VPN Virtual Miniport Adapter for Windows x64
Intel(R) 82577LM Gigabit Network Connection
Intel(R) Centrino(R) Advanced-N 6200 AGN
Microsoft Virtual WiFi Miniport Adapter
Ports (COM & LPT)
Processors
Smart card readers
Sound, video and game controllers
Storage controllers
System devices
Universal Serial Bus controllers
Generic USB Hub
Generic USB Hub
Generic USB Hub
Generic USB Hub
Intel(R) 5 Series/3400 Series Chipset Family USB Enhanced Host Controller - 3B34
Intel(R) 5 Series/3400 Series Chipset Family USB Enhanced Host Controller - 3B3C
USB Composite Device
USB Composite Device
USB Root Hub
USB Root Hub

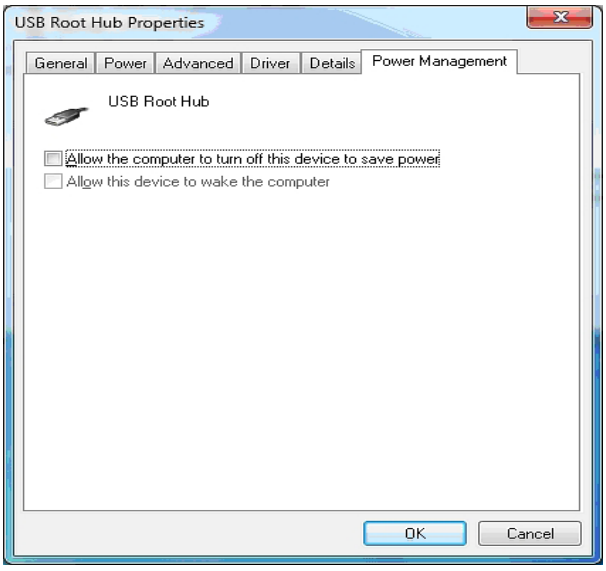
Expanded USB Hub folder



USB Root Hub properties

6. Click the **Power Management** tab and uncheck the box to "Allow the computer to turn off this device to save power."

7. Click **OK** to save changes.



Power Management tab

8. Perform steps 5…7 for each USB Root Hub.
9. When finished, close the Device Manager window.
   The ORION Endpoint Utility software is ready to use.

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The Americas | Badger Meter | 4545 West Brown Deer Rd | PO Box 245036 | Milwaukee, WI 53224-9536 | 800-876-3837 | 414-355-0400
México | Badger Meter de las Americas, S.A. de C.V. | Pedro Luis Ogazón N°32 | Esq. Angelina N°24 | Colonia Guadalupe Inn | CP 01050 | México, DF | México | +52-55-5662-0882
Europe, Middle East and Africa | Badger Meter Europa GmbH | Nurtinger Str 76 | 72639 Neuffen | Germany | +49-7025-9208-0
Europe, Middle East Branch Office | Badger Meter Europe | PO Box 341442 | Dubai Silicon Oasis, Head Quarter Building, Wing C, Office #C209 | Dubai / UAE | +971-4-371 2503
Czech Republic | Badger Meter Czech Republic s.r.o. | Mařikova 2082/26 | 621 00 Brno, Czech Republic | +420-5-41420411
Slovakia | Badger Meter Slovakia s.r.o. | Racianska 109/B | 831 02 Bratislava, Slovakia | +421-2-44 63 83 01
Asia Pacific | Badger Meter | 80 Marine Parade Rd | 21-06 Parkway Parade | Singapore 449269 | +65-63464836
China | Badger Meter | 7-1202 | 99 Hangzhong Road | Minhang District | Shanghai | China 201101 | +86-21-5763 5412